Undergraduate Studies Catalog
2010-2011

Worcester State

www.worcester.edu

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WORCESTER STATE

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508-929-8000

www.worcester.edu

CATALOG
UNDERGRADUATE STUDIES

Academic Year 2010–2011

Graduate information is available in the Graduate School Catalog which may be obtained in the Graduate Office.

Worcester State

TABLE OF CONTENTS

GENERAL INFORMATION

Prologue 7

Mission 7

Accreditation 8

Policy on Nondiscrimination 8

Family Educational Rights and Privacy Act 9

The Campus 11

Community Relations 13

Change of Catalog Information 13

UNDERGRADUATE STUDIES

Degree Programs 14-15

Admissions

First-year Student Admission 16

MDHE Massachusetts High School Unit Requirements (College Prep) 16

GED Recipients 17

Transfer Applicants 17

Non-Traditional Applicants 18

Special Admissions 18

International Applicants 18

Exceptions 19

Application Process 20

Admission Following Withdrawal from Worcester State or Leave of Absence 23

Special Non-Matriculated Students 24

Admission to Non-Degree Programs 24

Second Baccalaureate Degree 25

Evening Undergraduate Course Offerings 25

Post-Baccalaureate Pre-Medical and Pre-Dental Program 25

Student Right-to-Know Act 26

Academic Policies and Procedures

Academic Honesty 27

Matriculation 34

General Requirements for the Baccalaureate Degree 35

General Education Requirements 36

Track I: Liberal Arts and Sciences Curriculum (LASC) 36

Track II: Foundation Requirements 43

Track II: Distribution Requirements 43

Laptop and Technology Requirement 44

First-year Experience Requirement 44

Electives 45

Intent to Graduate 45

Program 45

Major/Minor 45

Concentration 46

Certificate 46

Academic Advising 46

Academic Support Services 46

Worcester State Honors Program 47

Dean's List (posted for matriculated undergraduate students only) 48

Graduation Honors 48

Academic Achievement Awards Ceremony 48

Registration and Course Information 48

Transcripts 51

International Programs 51

Standards of Progress 52

Withdrawal from Worcester State/Leave of Absence 54

Academic Reprieve Policy 54

Undergraduate Appeal Procedure 55

Enhanced Learning Opportunities

Reserve Officer Training Corps (ROTC) 60

SERVICES FOR STUDENTS

Multicultural Affairs 63
Athletics and Recreation 64
Campus Ministry 64
Worcester State Bookstore 64
Worcester State Police Department 65
Counseling Services 65
Health Services Office 66
Lancer Dining Services 67
Residence Life and Housing Services 67
Student Activities and Organizations 68
Veterans Information 68
Discipline Information 69-70

FINANCIAL INFORMATION

Tuition and Fees 71, 73
Undergraduate State-supported Programs 71
Tuition Surcharge 72
Room and Board 74
Evening Undergraduate, Graduate, and Summer Programs 74
Student Health Insurance 75
General Worcester State Refund Policy 75
Return of Title IV Funds 76

Financial Aid

General Information 77
Application Process 77
Financial Aid Application Deadlines 78
Sources of Financial Aid 78
Federal Grants and Benefits 78
Grants and Waivers for Massachusetts Residents 79
Student and Parent Loans 81
Student Employment 82
Tuition Payment Plan 82

Worcester State Scholarships for Entering Students 83
Worcester State Academic Scholarships for Returning Students 84

ACADEMIC CALENDAR AND EXAM SCHEDULE 97, 98

DEPARTMENT INFORMATION 99

UNDERGRADUATE ACADEMIC DEPARTMENTS, FACULTY, PROGRAMS AND COURSES

Arabic 100
Art 101
Bioinformatics 108, 116, 128, 147
Biology 105
Biotechnology 115
Business Administration 118
Chemistry 126
Communication 134
Communication Sciences and Disorders 141
Community Health 212
Computer Science 146
Criminal Justice 152
Economics 159
Education (Early Childhood, Elementary, Middle School, Secondary) 163
English 181
French 192
Geography and Earth Sciences 195
Gerontology 297
Global Studies 203
Health Sciences 211
History 218
Information Technology 228
Mathematics 229
Middle East Studies 219
Music 235

Natural Science 240
Nuclear Medicine Technology 107
Nursing 244
Occupational Therapy 253
Philosophy 259
Physical Education 264
Physics 267
Political Science 270
Psychology 274
Sociology 283
Spanish 288
Theatre 293
Urban Studies 296
Visual and Performing Arts, Interdisciplinary 303
Web Development 148
Women's Studies 307
World Languages 316

PROFESSORS EMERITI 317

OFFICIALS OF WORCESTER STATE 321

ADMINISTRATIVE OFFICES 324

ALUMNI ASSOCIATION'S ADVISORY BOARD 332

WORCESTER STATE FOUNDATION BOARD OF DIRECTORS 333

INDEX 334

CAMPUS MAP AND DIRECTIONS ..... 340, inside back cover

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General Information

Prologue

From its founding in 1874, Worcester State has been dedicated to educational programs that lead to self-enrichment and to careers in the professions, government, business, and industry.

As a public, state-supported college governed by a local Board of Trustees under the direction of the Massachusetts Department of Higher Education, Worcester State is empowered to award baccalaureate and master's degrees in education and in the arts and sciences. While continuing its tradition of serving the residents of the Commonwealth, Worcester State has earned a reputation for quality teaching by dedicated faculty in classes of moderate size, and for programs responsive to its students' and society's changing needs.

Mission

Worcester State, a public metropolitan institution of higher learning located in a culturally vibrant region of the Commonwealth, affirms the principles of liberal learning as the foundation for all advanced programs of study.

Worcester State offers programs in the traditional liberal arts and sciences disciplines, while maintaining its historical focus on teacher education. It has expanded its offerings with professional degree programs in biomedical sciences, business, and the health professions. Through its curricula, Worcester State addresses the intellectual and career needs of the increasingly diverse citizenry of central Massachusetts.

Worcester State is dedicated to offering high quality, affordable undergraduate and graduate academic programs and to promoting the lifelong intellectual growth, global awareness, and career opportunities of its students. To this end, Worcester State values teaching excellence rooted in scholarship and community service; cooperates with the business, social, and cultural resources of Worcester County; collaborates with other institutions of higher learning in the region; and develops new programs responsive to emerging community needs.

Accreditation

Worcester State is accredited by the New England Association of Schools and Colleges, Inc., a non-governmental, nationally recognized organization whose affiliated institutions include elementary schools through collegiate institutions offering post-graduate instruction.

Accreditation of an institution by the New England Association indicates that it meets or exceeds criteria for the assessment of institutional quality periodically applied through a peer group review process. An accredited school or college is one which has available the necessary resources to achieve its stated purposes through appropriate educational programs, is substantially doing so, and gives reasonable evidence that it will continue to do so in the foreseeable future. Institutional integrity is also addressed through accreditation.

Accreditation by the New England Association applies to the institution as a whole. As such, it is not a guarantee of the quality of every course or program offered, or the competence of individual graduates. Rather, it provides reasonable assurance about the quality of opportunities available to students who attend the institution.

Inquiries regarding the status of an institution's accreditation by the New England Association should be directed to the administrative staff of the school or college. Individuals may also contact the Association:

New England Association of Schools and Colleges
The Sanborn House, 15 High Street
Winchester, Massachusetts 01890
(617) 729-6762

The following programs are accredited by their respective professional organizations: Nursing, The National League for Nursing; Speech-Language Pathology, the American Speech-Language-Hearing Association; Occupational Therapy, Accreditation Council for Occupational Therapy Education; and Nuclear Medicine Technology, the Joint Review Committee on Educational Programs in Nuclear Medicine Technology. Please refer to department chapters for addresses and telephone numbers of the accrediting organizations.

Policy on Nondiscrimination

Worcester State is committed to a policy of nondiscrimination, equal employment opportunity, and affirmative action in its educational programs, activities, and employment practices. Worcester State maintains and promotes a policy of nondiscrimination on the basis of race, creed, religion, color, sex, sexual orientation, age, disability, veteran status, marital status, and national origin. This policy incorporates by reference the requirements of Federal Executive Orders 11246 and 11375 as amended; the Civil Rights Act of 1964 as amended; Title IX of the Higher Education Act of 1972 as amended; Sections 503 and 504 of the Rehabilitation Act of 1973, as amended; Section 402, Vietnam Era Veterans Readjustment Assistance Act of 1974; the Civil Rights Restoration Act of 1988; and pertinent laws, regulations, and executive orders; directives of the Massachusetts Department of Higher Education, the Board of Trustees, the Commonwealth of Massachusetts, and other applicable state and federal statutes.

The Director of Diversity may be contacted at 508-929-8117 regarding Worcester State's policy of nondiscrimination and affirmative action (including compliance with Section 504 of the Rehabilitation Act of 1973, as amended).

Family Educational Rights and Privacy Act

Worcester State complies fully with the provisions of the Family Educational Rights and Privacy Act of 1974 as amended. This federal law protects the privacy of education records and establishes the rights of students to:

1. Inspect and review their education records within 45 days of the day Worcester State receives a request for access.

   Students should submit to the registrar, dean, head of the academic department or other appropriate official, written requests that identify the record(s) they wish to inspect. The Worcester State official will make arrangements for access and notify the student of the time and place where the records may be inspected. If the Worcester State official to whom the request was submitted does not maintain the records, that official shall advise the student of the correct official to whom the request should be addressed.

2. Request the amendment of the education records that the student believes are inaccurate or misleading.

   Students may ask Worcester State to amend a record that they believe is inaccurate or misleading. They should write to the Worcester State official responsible for the record, clearly identify the part of the record they want changed, and specify why it is inaccurate or misleading.

   If Worcester State decides not to amend the record as requested by the student, Worcester State will notify the student of the decision and advise the student of his or her right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.

3. To file a complaint with the U.S. Department of Education concerning the alleged failures by Worcester State to comply with the requirements of FERPA, the name and address of the office that administers FERPA is:

   Family Policy Compliance Office
   Department of Education
   Independence Avenue, SW
   Washington, DC 20202-4605

Worcester State accords all the rights under the law to students who are declared independent. No one outside the institution shall have access to nor will the institution disclose any information from students' education records without the written consent of students with the exception of the following:

- Worcester State officials within the institution
- officials of other institutions in which students seek to enroll
- persons or organizations providing students' financial aid
- accrediting agencies carrying out their accreditation function
- persons in compliance with a judicial order
- persons in an emergency in order to protect the health or safety of students or other persons.

All these exceptions are permitted under the Act. A Worcester State official has a legitimate educational interest if the official needs to review an education record in order to fulfill his or her professional responsibility. A Worcester State official is:

- a person employed by Worcester State in an administrative, supervisory, academic or research, or support staff position (including law enforcement unit personnel and health staff);

- a person or company with whom Worcester State has contracted (such as a consultant, contractor, volunteer or other party to whom Worcester State has outsourced institutional services or functions);
- a person serving on the Board of Trustees;
- a student serving on an official committee, such as a disciplinary or grievance committee, or assisting another school official in performing his or her tasks.

At its discretion the institution may provide directory information in accordance with the provisions of the Act to include:

- Student's name
- Address
- Photograph
- Date and place of birth
- Major field of study
- Grade level
- Degree
- Recent school attended
- Enrollment status
- Date of attendance
- Participants in officially recognized activities and sports
- Weight and height of athletic teams
- Honors/awards

Directory information does NOT include a student's social security number or student identification number.

Currently enrolled students may withhold disclosure of directory information by notifying the registrar in writing of the request prior to the end of the first week of classes in the Fall. Such requests will be honored for the duration of the academic year—September through August; therefore, authorization to withhold directory information must be filed annually with the registrar. Worcester State assumes that failure on the part of the student to specifically request the withholding of categories of directory information indicates individual approval of disclosure.

A request to withhold the above data in no way restricts internal use of the material by Worcester State.

In compliance with the Family Educational Rights and Privacy Act of 1974, as amended, Worcester State reserves the right to disclose information to parents of a student under 18 and/or the parents of a student who is dependent upon such parents for federal income tax purposes.

The Campus

Worcester State is located on 58 acres facing Chandler Street in the residential west side of Worcester. It is within an hour's drive of all major population centers in New England and combines urban convenience with a suburban setting. Worcester State is convenient to Interstate Highways 90 (Massachusetts Turnpike), 190, 290, and 495. The campus is served by buses of the Worcester Regional Transit Authority and by the shuttle bus service of the Worcester Consortium for Higher Education. The physical facilities of the Campus include the following:

Helen G. Shaughnessy Administration Building

Extensively renovated from 2007 to 2009, the Helen G. Shaughnessy Administration Building combines modern convenience and efficiency with much of the charm of the old Teachers College. It houses streamlined student services in an "academic mall" on the first floor as well as the Admissions Office on the second floor and Academic Affairs on the third floor. Also on the second floor are the President's Office and Conference Room, the Fuller Theater, and Institutional Advancement (including alumni relations, development, and public relations and marketing). The third floor is also home to Administration and Finance, Institutional Research and Assessment, Human Resources, Payroll and Benefits, Diversity and Affirmative Action. The Division of Graduate and Continuing Education is located on the fourth floor. The building first opened in January 1932 as Worcester State Teachers College, and was designed to accommodate 300 students with spacious classrooms, a gymnasium on the second floor, and a library on the fourth floor. Helen G. Shaughnessy was affiliated with Worcester State for 64 years—as a member of the Class of 1943, associate professor, chair of the Education Department, director of student teaching, director of personnel and labor relations, associate dean of Academic Affairs, and acting executive vice president.

Gymnasium

The Gymnasium contains indoor athletic and recreational facilities, including the Oscar Larsson Fitness Center. It also houses Health Services and Athletics administrative offices as well as art studios and classrooms.

Kalyan K. Ghosh Science and Technology Building

Opened in fall 2000, the Science and Technology Building is a state-of-the-art building designed to house the sciences including: Communication Sciences and Disorders, Occupational Therapy, Computer Science, Biology, Biotechnology, Chemistry, Geography and Earth Sciences, Geology, Natural Science and Physics, Health Science, and Nursing. The building contains 30 science, therapy and computer labs; offices for faculty and staff; conference/seminar rooms; and student discussion areas. This facility also houses a 200-seat multimedia classroom and Worcester State's art gallery.

Learning Resource Center

The Learning Resource Center (LRC) houses the library, a place for study and research with over 142,000 volumes and approximately 1,000 current periodicals. A CD-ROM network provides ready access to several resources electronically and a new library system will soon offer easy catalog and Internet searching capabilities. The library is a member of the Worcester Area Cooperating Libraries (WACL), a joint effort of 15 academic, public, and special libraries to facilitate the sharing of resources and provide advanced techniques in library and information science. A book delivery shuttle service operates daily during the academic year and weekly during the summer to facilitate interlibrary loans to students, faculty, and staff. WACL extends cross-borrowing privileges to all full-time and permanent part-time faculty and high-level administrators. Individually issued WACL cards permit direct loans from member libraries.

The Learning Resource Center also encompasses a complex of modern telecommunications and electronic learning facilities including the Information Technologies offices. The campus-wide computer network, maintained by Information Technologies, provides Internet connections to the outside world from the computer labs and student email accounts.

Also in the LRC are television studios and a production facility, and photographic laboratories. An instructional media center provides media to support the teaching and learning process while media production services is equipped for production of slides and tapes. The offices for library staff, Facilities, Publications and Printing Services, and the Communication and Criminal Justice academic departments are located in this building along with seminar rooms, classrooms, and lecture halls.

Outdoor Facilities

Worcester State has the advantage of naturally attractive surroundings. Among its outdoor facilities are an artificial turf athletic field and an eight-lane synthetic track, baseball and softball diamonds, field hockey, and tennis courts.

Residence Halls

Residence Halls at Worcester State provide housing to approximately 1,200 full-time undergraduate students. Chandler Village is a unique living area with 63 apartments in 26 interconnected townhouses. The apartments accommodate four, five, eight, nine, ten, or eleven persons and include furnished common living and kitchen areas.

Dowden Hall, more traditional in style, is a five-story residence hall that includes single, double, and triple rooms with study and recreational lounges. It is named for Vera Dowden Baldwin '34, M.Ed. '53, whose connection with Worcester State spanned 70 years. She joined the faculty in 1957, and she also served as supervisor of student teachers, dean of women, and the first dean of students in 1970.

Wasylean Hall is a six-story, suite-style building with multiple study and common rooms throughout. The suites are designed to accommodate four and six people. Each unit has single and double occupancy bedrooms with furnished common living and kitchen areas. There is a Ritazza coffee shop on the first floor. Wasylean Hall is home to the Office of Residence Life and Housing and the Worcester State Police. It is named for Phillip M. Wasylean II '63 in honor of his leadership $1 million gift to Worcester State.

Student Center

The Student Center is available as a resource for the entire Worcester State community and is conveniently situated at the geographical center of the campus. The first floor of the Student Center contains the following resources: Food Court and dining area, Worcester State bookstore, Information Desk, and the Print Center. The first floor also has several meeting/programming spaces including the North/South Auditorium, Blue Lounge, Exhibit Area and One Lancer Place. The second floor houses the Student Center/Student Activities Office, Conference and Event Services, and Commuter Services/Weekend Programming. Small meeting rooms, WSCW Radio Station, Student Government and Student Senate offices and the Living Room—a lounge for commuters and residents with pool tables, ping-pong, video games and several TV's, are also located on this floor. The third floor holds several Student Affairs offices including the Vice President of Student Affairs, Career Services, Counseling Office, Dining Services, Judicial Affairs and Multicultural Affairs. Student organization offices, including the Student Events Committee, Third World Alliance, the student newspaper, yearbook and more, are also located on this floor as well as the main cafeteria and additional meeting space.

Sullivan Academic Center

Named for Eugene A. Sullivan, Worcester State president from 1947 to 1970, the Sullivan Academic Center is a primary instructional center on campus. It contains faculty and academic department offices, a large lecture hall (Eager Amphitheater), classrooms, and a large attached auditorium. The Sullivan Auditorium provides the setting for a number of formal ceremonies including the annual Senior Capping. Also located in the Sullivan Academic Center are the Center for the Study of Human Rights, the Center for Teaching and Learning, and the Women's Studies Program office.

Community Relations

Worcester State values its connections with the greater community, which include partnerships with numerous individuals and organizations. The professional staff participates in events sponsored by the Commonwealth of Massachusetts, the City of Worcester, and the local Chamber of Commerce; hosts conferences, legislative meetings, and community breakfasts; sponsors seminars, lectures, and workshops; and supports a variety of initiatives in the arts and multi-cultural events. Worcester State's calendar includes numerous programs and events to which the public is welcomed.

The Office of Institutional Advancement is responsible for fund development and alumni relations. Annually, the office coordinates a number of special activities for Worcester State alumni including Reunion Weekend, Homecoming, and chapter events. Fund-raising campaigns provide an array of benefits and services to current students, alumni, and friends. Contributions are used primarily for scholarships, academic awards, laboratory and classroom equipment, educational seminars, faculty research grants, and other support services to promote quality education. The office publishes a donor newsletter, manages an online alumni community, and works in partnership with Marketing and Public Relations to produce the *Worcester Statement.*

The Marketing and Public Relations office develops and implements Worcester State's marketing and public relations initiatives. The office oversees all media relations, including the creation of press releases and news stories, and promotes various community outreach activities. The office is responsible for developing content and managing production of the *Worcester Statement,* the *President's Annual Report, Quick Facts,* and various brochures and informational pieces. The office also oversees editorial content for Worcester State's website.

Change of Catalog Information

This catalog was prepared in the summer of 2010, with information available at the time of preparation. Provisions of this catalog are subject to change by order of the Massachusetts Department of Higher Education or the Worcester State Board of Trustees. It is the policy of Worcester State to provide advance notice of changes whenever it is reasonable and practical to do so.

Undergraduate Studies

Degree Programs

Worcester State is authorized to Award the Bachelor of Arts (BA) and the Bachelor of Science (BS) degree in 25 academic programs. Worcester State also offers Minors in 29 academic disciplines as well as 8 Interdisciplinary Minors or Concentrations.

PROGRAM	MAJOR	MINOR/ IC**	SPONSORING DEPARTMENT
Art		X	Visual & Performing Arts
Bioinformatics		IC	Biology, Biotechnology, Chemistry, Computer Science
Biology	BS	X	Biology
Biotechnology	BS		Biology
Business Administration	BS*	X	Business Administration & Economics
Chemistry	BS*	X	Chemistry
Communication	BA*	X	Communication
Communication Sciences & Disorders	BS	X	Communication Sciences & Disorders
Community Health	BS*		Health Sciences
Computer Science	BS	X	Computer Science
Criminal Justice	BS*		Criminal Justice
Early Childhood Education	BS		Education
Economics	BS	X	Business Administration & Economics
Elementary Education	BS		Education
English	BA*	X	English
French		X	World Languages
Geography	BS	X	Physical & Earth Sciences
Gerontology		IC	Urban Studies & Consortium Instruction
Global Studies		IC	Interdisciplinary Program

PROGRAM	MAJOR	MINOR/ IC**	SPONSORING DEPARTMENT
Health Education	BS*	X	Health Sciences
History	BA*	X	History & Political Science
Information Technology		X	Computer Science
Mathematics	BS	X	Mathematics
Middle East Studies		X	History & Political Science
Middle School Education		X	Education
Music		X	Visual & Performing Arts
Natural Science	BS*	X	Physical & Earth Sciences
Nuclear Medicine Technology		IC	Biology, Chemistry, Physical & Earth Sciences, UMASS Medical School Instruction
Nursing	BS		Nursing
Occupational Studies	BS		Occupational Therapy
Philosophy		X	Philosophy
Physics		X	Physical & Earth Sciences
Political Science		X	History & Political Science
Psychology	BS*	X	Psychology
Secondary Education		X	Education
Sociology	BS	X	Sociology
Spanish	BA	X	World Languages
Theatre		X	Visual & Performing Arts
Urban Studies	BS	X	Urban Studies
Visual & Performing Arts	BA		Visual & Performing Arts
Web Development		X	Communication, Computer Science
Women's Studies		IC	Interdisciplinary Program

***Majors that are also offered in the evening.**

****Interdisciplinary Concentration (IC)**

Admissions

Worcester State seeks to enroll students who will succeed academically, thrive socially and contribute meaningfully to the campus community.

First-year Student Admission

A student's high school academic record is the single most important factor in our evaluation process for first-year student admission. The quality and level of courses, grade point average, and grade trends are all important factors. SAT and/or ACT scores are required. Work experience and extracurricular activities may strengthen overall credentials for admission. SAT II test scores, a personal essay, and teacher recommendations are not required but may add support to an application. The TOEFL is recommended for students who are not native speakers of English. Specific requirements for competitive majors such as education, nursing and occupational therapy are described in the application materials.

Worcester State determines first-year student admission eligibility in accordance with the published standards established by the Massachusetts Department of Higher Education (MDHE). Meeting these minimum standards does not guarantee admission to Worcester State.

MDHE Massachusetts High School Unit Requirements (College Prep)

English	4
Mathematics	3 (Algebra I & II and Geometry or Trigonometry, or comparable coursework)
Natural Science	3 (including 2 with lab)
Social Science	2 (including U.S. History)
Foreign Language	2 (in a single language)
Electives	2

Minimum Grade Point Average in Required Courses

The grades earned in college preparatory courses are re-calculated into a grade point average (GPA). In re-calculating GPA, extra credit is received for honors and Advanced Placement courses. Non-college preparatory courses are not included; therefore, the GPA calculated by Worcester State may be different than the GPA calculated by a high school.

Grades will be converted to a 4.0 scale, where “A” = 4.0, “B” = 3.0, “C” = 2.0, and “D” = 1.0. On this scale, a 3.0 GPA is equal to a “B” average. A 3.0 minimum GPA is required, unless the student attains one of the GPA/SAT combinations listed in the chart on page 17.

SAT or ACT Test Requirement

For students with a GPA of 3.0 or above, Worcester State reserves the right to establish additional criteria, such as a minimum SAT or ACT score and/or minimum class standing.

For those students with a GPA below 3.0, a clear-cut SAT/ACT score will be applied as a minimum standard, in accordance with the Massachusetts Department of Higher Education Scale below.

GPA	SAT* **	ACT
2.51-2.99	920	19
2.41-2.50	960	20
2.31-2.40	1000	21
2.21-2.30	1040	22
2.11-2.20	1080	23
2.00-2.10	1120	24

**** Critical Reading and Math sections only***

***** Based on highest critical Reading score and highest Math score***

****** Nursing and Occupational Therapy programs require a 3.00 and 1000 SAT or 21 ACT minimum.***

No applicant with a high school GPA less than 2.00 may be admitted to a state college.

NOTE: The Massachusetts Department of Higher Education Scale is subject to change.

Students who have graduated from high school three years ago or more should apply as non-traditional students (see section on page 18) and may present SAT/ACT scores at their option.

GED Recipients

Candidates for admission who have completed the high school diploma requirement by earning the General Equivalency Diploma (GED) must submit official GED score reports with a minimum attainment in the 75th percentile in all subject areas, and an official copy of their high school transcript showing work completed and/or attempted with grades earned. GED applicants must also submit official SAT score reports if their high school class would have graduated within the last three years.

Transfer Applicants

Students who do not enroll as first-year students, may attend a community college or other college or university, and then transfer to Worcester State. To do so, one of the following requirements must be met:

1) 12-23 transferable college credits and a minimum 2.5 college GPA;
2) Up to 23 transferable college credits, a minimum 2.0 college GPA, and a combination of high school grades and SAT/ACT scores that meet the admission standards for first-year applicants; OR
3) 24 or more transferable college credits and a minimum 2.0 college GPA.

If college credits have been earned while enrolled in high school, the admission standards outlined above for first-year student applicants must be met.

If you have attended college/university:

Complete, official transcripts of all work taken at other institutions must be submitted as part of the application process, whether or not credit for such work is desired or expected. Students who fail to acknowledge attendance at any college or university in which they

have been enrolled automatically waive the right to have that work considered for transfer credit. They may also be subject to denial of admission, loss of course credit, and/or suspension from Worcester State

Non-Traditional Applicants

If a student applies to Worcester State more than three years after high school graduation, they do not need to meet the admission standards for first-year students. Instead, they must show that they are capable of succeeding at Worcester State based upon their high school and/or college transcript grades. Standardized test scores and other factors may be used as part of the admission process. A current resume or personal statement outlining life experience, career goals and specific reasons for applying to Worcester State may be submitted with the application.

Special Admission

If standards for first-year, transfer or non-traditional students, are not met, acceptance may still be possible based upon other signs of potential for academic success in a four-year college or university program. Possible signs of such success include steadily improving high school grades, high school class ranking, special talents, and strong recommendations.

International Applicants

Worcester State welcomes qualified international applicants. All of the documents listed below must be submitted before March 1st for the Fall semester (January 15th for Fall only Nursing and Occupational Therapy Majors). No international applicants will be considered for the Spring semester unless:

- They are currently enrolled in an ESL program in the U.S. or in native country.
- They are currently attending a U.S. college or university.
- They are currently in the U.S. with a legal status which permits academic studies or language training.
- They currently have a J1, H1B, or H4 visa.
- They were accepted for a previous semester but deferred attendance due to being refused a visa.

1) Official high school/secondary school transcripts or national exam reports.
2) Official college or university transcripts accompanied by a course-by-course formal evaluation by a professional evaluating agency in the U.S. (for courses taken outside the U.S.).

   TOEFL is a requirement for all applicants who have studied in a country where English in not the native language.
3) Official results of the TOEFL; minimum TOEFL score of 500 (paper exam), or 61 (internet-based test) is required. All TOEFL scores must be submitted directly from the Educational Testing Service (ETS). For additional information, you may access www.toefl.org or call the Intensive English Language Institute (IELI) at Worcester State, 508-929-8120. The IELI is an official TOEFL internet-based test site.

   Applicants who have earned an Associate of Arts or Associate of Science degree from a regionally accredited U.S. college or university are not required to submit a TOEFL score.
4) Official results of the SAT are required for all first-year student applicants.

5) Original bank statement, showing the most current six months of financial activity from a financial institution or agency indicating that adequate funds are available to cover all educational expenses incurred while at Worcester State for one academic year (currently a minimum of $21,500 U.S. dollars).
6) Original Worcester State Certification of Finances form from person or people sponsoring your education in this country.
7) International applicants, who have attended another college or university or secondary school in the U.S., must forward a copy of their I-20 Form with their application.

Transcripts and other documents submitted in languages other than English must be accompanied by an English translation and course-by-course evaluation (if applicable) from a recognized agency or organization. For a list of approved agencies, please contact the Admissions Office.

Please note: Worcester State will not issue an I-20 Form to international applicants until the tuition deposit is paid. The tuition deposit deadline for the Fall semester is May 1st. There will be no exceptions to this deadline.

Exceptions

Learning Disabled

If you have a documented learning disability, you do not have to take tests such as the SAT or ACT for admission to Worcester State. However, you must submit educational testing completed within the last three years. You must still complete the required academic units with a minimum GPA of 3.0. First-year student applicants with a language-based learning disability may substitute two alternate college prep electives for the foreign language course requirements.

English as a Second Language (ESL) Students

If you are an ESL student, you are eligible for exceptions to the admission requirements. For example, ESL students may substitute two electives for the two required foreign language courses. You must take the Test of English as a Foreign Language (TOEFL) and SAT, and should contact your guidance counselor or the Admissions Office for more information.

Vocational-Technical Students

Vocational-technical students must complete 16 college preparatory courses, distributed in the same manner and with the same minimum grade point averages required of other high school graduates, with the following exceptions:

- Two vocational-technical courses may be used to fulfill the two required electives.
- Vocational-technical high school graduates who do not complete the two required college preparatory foreign language courses must complete an additional elective college preparatory course, for a total of three such courses, and satisfy *one* of the following options:

1) Complete at least one Carnegie unit of foreign language;
2) Complete a fourth Carnegie unit of mathematics or science, which need not be a laboratory course; or
3) Complete one Carnegie unit of computer science.

Note: A Carnegie unit represents a full academic year of study or its equivalent in a specific subject.

This requirement will remain in effect until the Department of Education (DOE) implements its requirements regarding foreign language study for vocational-technical students. At that time, vocational-technical applicants for admission to UMass and the state colleges will be required to meet DOE requirements for foreign language study.

Application Process

Directions for First-year Student Applicants

Students can obtain applications from their guidance counselors. Applications may also be obtained from the Admissions Office, Worcester State, 486 Chandler Street, Worcester, MA 01602-2597, 508-929-8040, toll free: 866-972-2255. Students may also apply online at www.worcester.edu/admissions.

Each applicant must submit the following materials:

- An official copy of the high school transcript (transcripts are deemed official only when sent directly to the Admissions Office from the high school);
- An official copy of SAT, ACT, or TOEFL (test results should be submitted directly to Worcester State from the testing agency);
- A completed Worcester State application form;
- Payment of an application fee: $40 for all applicants.

NOTE: The SAT includes a student-written essay and multiple choice writing section. Worcester State requires official scores of all SAT results.

High school students must request an official high school transcript that includes at least the first marking period of the senior year. Also, a final high school transcript must be requested at the time of graduation that indicates successful completion of the requirements to graduate from high school. The Admissions Office must receive this official, final high school transcript before registration for courses and the final award of financial aid is approved. All transcript materials requested by the applicant become the property of Worcester State and cannot be released to the applicant or to other institutions or agencies.

Priority Deadlines for Fall: January 15 for Nursing Track I (Fall enrollment only) and Occupational Therapy applications is the deadline. All other applications completed by February 1 will increase the opportunities for on-campus housing and Financial Aid. Worcester State will accept applications through June 1 if space is available. All decisions for admission are rendered on or before April 15 for those who meet the February 1 priority deadline. All pertinent deposits and the orientation fee are due on or before May 1 for those students who meet the priority deadline.

Priority Deadlines for Spring: November 15. No Spring applicants will be accepted for the Bachelor of Science in Nursing Track I or Occupational Therapy. Applications for the RN to BSN program are due by November 15.

Directions for Transfer Applicants

Transcripts from colleges previously attended are the primary factor in determining acceptance to Worcester State. To be considered a transfer applicant, a student must have successfully completed the requirements listed on page 17 of this catalog, at an accredited college or colleges. The following materials must be supplied:

- An official final high school transcript, indicating proof of graduation from an accredited high school or a high school equivalency certificate indicating the test

scores received. These must be received by the Admissions Office before clearance for registration or the award of financial aid is approved.

- An official transcript of all courses completed at each post-secondary institution attended (transcripts are deemed official only when sent directly to the Admissions Office from the previous colleges).
- A completed Worcester State application form.
- Payment of an application fee: $40 for all applicants.

To qualify for a degree from Worcester State, transfer students must complete at least 30 of the last 40 semester hours of credit while matriculated at Worcester State. Credits earned elsewhere will be evaluated with respect to curricular requirements of Worcester State and a Transfer Program Summary of acceptable transfer courses will be included with the acceptance letter.

Worcester State will transfer a maximum of 65 credits from two-year colleges and a maximum of 90 credits from four-year colleges/universities. If a transfer applicant has previously attended a combination of two-year and four-year educational institutions, a maximum of 90 credits, including no more than 65 credits from the two-year college(s), will be transferred. In order to be considered transferable, a course must be college-level, and the student must have received a grade of C– or better. Remedial/developmental courses will not transfer, some internships, practica, colloquia, and cooperative education experiences may transfer. Worcester State does not transfer life/career experience as college credit. All materials submitted become the property of Worcester State and cannot be released to the applicant or any other agency.

Priority Deadlines for Fall: January 15 for Nursing Track I (Fall enrollment only); RN to BSN applicants must apply by November 15 for January admission or May 1 for Fall admission; January 15 for Occupational Therapy (NOTE: Students applying for Fall transfer into Occupational Therapy must begin taking classes in Summer Session I). All other transfer applications—May 1. Worcester State will accept applications through July 1 if space is available.

MassTransfer

Students planning to transfer to one of the Massachusetts state-supported colleges or universities are eligible for MassTransfer. MassTransfer provides community college graduates who complete designated associate's degrees with the benefits of the full transfer and applicability of credit, (2.0 GPA or higher if admitted), guaranteed admission (2.5 GPA or higher), and a partial tuition discount (3.0 GPA or higher).

MassTransfer integrates and replaces the Commonwealth Transfer Compact, the Joint Admissions Program, and the Tuition Advantage Program.

Community college students who matriculated prior to fall 2009 and who participate in the Commonwealth Transfer Compact and/or Joint Admissions programs will be required to complete their associate degrees by August 2013 and must matriculate at a Massachusetts state college or University of Massachusetts campus by fall 2014 to receive the benefits of these programs.

Students matriculating in fall 2009 as well as currently enrolled students may accumulate courses leading toward the completion of an approved associate degree under MassTransfer or the MassTransfer Block. The policy benefits will apply to students who complete either an approved associate degree or the MassTransfer Block beginning fall 2010, regardless of initial date of enrollment.

Benefits for students who complete associate's degrees under MassTransfer are:

Minimum Final GPA	Benefits
2.00 GPA	• No admission fee or essay • Guaranteed full transfer of a minimum of 60 credits applied to the bachelor's degree, if admitted • Satisfaction of the general education/distribution/core requirements at the receiving institution, with the receiving institution able to add no more than six additional credits/two courses, if admitted
2.50 GPA	Guaranteed admission, plus all of the above benefits
3.00 GPA	A one-third tuition discount, plus all of the above benefits *(must be used within one year after date of graduation)*

Stipulations:

- If students change their majors or if the linked baccalaureate programs require a higher grade point average or specific courses which are required of native students, MassTransfer students must meet these additional requirements.
- If, because of space or fiscal limitations, the receiving institution does not admit all qualified applicants to a given major or program, the receiving institution will use the same criteria for MassTransfer applicants as it does for its native students.

MassTransfer also provides students in the Massachusetts public higher education system the intermediate goal of completing a portable general education Transfer Block that will satisfy the general education/distribution/core requirements across institutions. Students completing the Transfer Block without earning a degree at any Massachusetts higher education institution with a 2.0 or higher grade point average if admitted will earn the 34 credit hours outlined below, exclusive of developmental coursework.

Transfer Block	
English Composition/Writing	6 credits
Behavioral and Social Sciences	9 credits
Humanities and/or Fine Arts	9 credits
Natural or Physical Science	7 credits
Mathematics/Quantitative Reasoning	3 credits
Total Credits	**34 credits**

Benefits for students who complete the Transfer Block are:

Minimum Final GP	Benefit
2.0 GPA	Satisfaction of the general education/distribution/core requirements at the receiving institution, with the receiving institution able to add no more than six additional credits/two courses, if admitted

Stipulations:

- Students enrolled in a specific major or degree program may be required to take additional courses if these courses are specifically required for the major or program and are required of native students.
- Completion of the Transfer Block does not guarantee admission to the college or university

Commonwealth Transfer Compact
(statewide policy is under review and subject to revision)

The Commonwealth Transfer Compact applies to students transferring from Massachusetts community colleges to public colleges and universities offering the baccalaureate degree. Students shall be eligible for transfer compact status if they have met the following requirements: a) completed an associate degree with a minimum of 60 credit hours exclusive of developmental coursework; b) achieved a cumulative GPA of not less than 2.0 (in a 4.0 system) at the community college awarding the degree and c) completed a minimum 35 credits in general education, exclusive of developmental coursework. The general education core consists of English composition/writing (6 credits), behavioral and social sciences (9 credits), humanities and fine arts (9 credits), natural or physical sciences (8 credits) and mathematics (3 credits).

For students eligible under the compact, the 35 credits in general education will be applied toward the fulfillment of Worcester State's general education requirements. A minimum of 25 additional credits will be accepted as transfer credits by Worcester State. These credits may be transferred as free electives, toward the student's major, distribution course work or any combination, as Worcester State deems appropriate.

To complete the baccalaureate degree, students who transfer under this compact may be required to take no more than 68 additional credits unless they change their program upon entering the receiving institution, or the combination of additional general education requirements and the requirements of their major total more than 68 credits. Under these circumstances, transfer students will be subject to the same requirements as native students. A transfer student may not be held to any degree requirements at Worcester State that were established less than three years prior to transfer admission.

Joint Admissions

Worcester State participates in the statewide Joint Admissions program between Massachusetts community colleges and state colleges. Joint Admissions provides barrier-free movement from the community college to Worcester State. Additional information is available from the Admissions Office at Worcester State and the Academic Deans at the community colleges.

Pre-entrance Immunization Requirements

New first-year and transfer students must submit required health forms before registering for classes. For additional information refer to Health Services on page 66.

Admission Following Withdrawal from Worcester State or Leave of Absence

Matriculated students who fail to take a course during a calendar year will be administratively withdrawn from Worcester State. Students who wish to permanently withdraw from Worcester State or take a temporary leave of absence must complete appropriate forms in the Academic Success Center. If the withdrawal or leave of absence is filed prior to the last day to withdraw from courses for the term, "W" will be recorded on the student's record. Students who file for leave of absence or withdrawal after the last day to withdraw from courses for the term may petition if they feel circumstances warrant the recording of "W" for all courses enrolled for that term. Normally, a leave of absence is for one semester; however, a student may have up to one year to return to Worcester State. Failure to return at the specified time will result in an administrative withdrawal from Worcester State.

Re-activation of Degree Status

There are two procedures in which students can reactivate their matriculation status at Worcester State after withdrawal/non-continuous attendance/dismissal: readmission and reinstatement.

Readmission:

Students who have attended other colleges/universities since their withdrawal and wish to have these credits evaluated for transfer to their Worcester State program, will need to be readmitted through the Admissions Office. Also, students re-applying for the following majors must do so through the Admissions Office: Education (Elementary and Early Childhood), Nursing, and Occupational Therapy. Applications are available in the Admissions Office (Administration Building, Room 248) and online at www.worcester.edu

Reinstatement:

If students have not accumulated any college level courses prior to seeking reactivation of their degree status and are not applying for the following majors: Education (Elementary and Early Childhood), Nursing and Occupational Therapy, they should apply for reinstatement directly through the Registrar's Office (Administration Building, Room 107). It is the students' responsibility to supply and update the following documents if not already on file. Deadline for fall-July 1; spring-November 1; summer-April 1.

- final high school transcript
- completed proof of residency form
- official transcript of all courses completed at each post-secondary institution attended (excluding Worcester State)

Upon completion of any missing data, the student's file will be reviewed and a plan for academic persistence and success will be developed. Students then must meet with an advisor in the declared major in order to register.

Academic Progress after reinstatement/readmission

It is expected that students must attain a minimum GPA of 2.0 for each semester following their return. Failure to maintain a 2.0 overall average will result in a second separation from Worcester State not subject to appeal.

All reinstated students follow the degree, program, and graduation requirements from the catalog in effect at the time of their reactivation, not those in effect at the time of their withdrawal. Students need to attend Worcester State at least for one semester prior to graduation certification.

Special Non-Matriculated Students

Students classified as Senior Citizens, College Academic Program Sharing (CAPS) and Colleges of Worcester Consortium may enroll as Special Students. Others may enroll up to a maximum of 11 credit hours on a space available basis at a time designated by the Registrar. Others who wish to enroll for more than 11 credit hours in state-supported classes must be admitted to Worcester State through the Admissions Office before taking courses.

Admission to Non-Degree Programs

Applicants who have already earned a bachelor's degree and wish to complete a second major, Elementary, Middle or Secondary Education should specifically request an undergraduate application form. Applicants who have completed a Non-Licensure program in Early Childhood Education may apply for a Non-Degree Licensure Education program. Applicants with an Early Childhood Non-Licensure degree must have a minimum of three (3) years teaching experience or have completed the equivalent of a second major in liberal arts and sciences.

Second Baccalaureate Degree

Applicants who have already earned a bachelor's degree may apply for a second baccalaureate. Requirements for this degree are found on page 35.

Evening Undergraduate Course Offerings

Evening undergraduate course offerings are designed primarily to meet the needs and interests of adult learners and other non-traditional students who pursue study primarily on a part-time basis. The evening schedule of courses offered by Worcester State is especially convenient for students whose job and family commitments prevent enrollment in day programs. Instruction in evening courses is provided by Worcester State faculty and qualified adjunct faculty.

All degree seeking students must follow the procedures for admission to Worcester State outlined above. Students are advised that there is no guarantee that all courses necessary for completion of degree requirements will be available exclusively in evenings/summers.

Post-Baccalaureate Pre-Medical and Pre-Dental Program

The program recognizes the individual needs of students. Each post-baccalaureate candidate has his/her own academic history. The program recognizes these individual differences. Each participant's academic history is evaluated and appropriate courses are advised based upon his/her specific needs. Pre-Medical and Pre-Dental students have access to Worcester State's Pre-Medical & Pre-Dental Advisory Committee including its advisory service and its recommendation letter process.

Students who complete twenty-four credits of the Basic Core Science Courses Required for Medical and Dental School and/or other elective courses at Worcester State will receive a Certificate of Completion.

Students who have taken no science courses or very few should take the Basic Core Science Courses as prerequisites for medical and dental school. Students who complete the Basic Core plus two semesters of mathematics and NS 400, Natural Science Seminar are eligible for a Second Major, namely, Natural Science. In addition students who meet Worcester State's requirement for foundation and distribution courses are eligible for a Second Baccalaureate Degree. Students entering the program with a strong background in the sciences may opt to take advanced courses in his/her area of interest. Through the Division of Graduate and Continuing Education students may major in Natural Science. In addition, program participants are eligible for the one year full time Post Baccalaureate Nuclear Medicine Technology Certificate Program offered by Worcester State and the UMASS Memorial Medical Center. The Core Basic Science Courses and mathematics courses through Calculus I and II are offered at Worcester State throughout the academic year in both the day and evening as well as during Worcester State's Summer Session. Interested students should contact the Office of Graduate and Continuing Education.

The Basic Core

CH 120 & CH 121	General Chemistry I & II	8 credits
CH 201 & CH 202	Organic Chemistry I & II (Lectures)	6 credits
CH 203 & CH 204	Organic Chemistry Lab I & II	4 credits
PY 221 & PY 222	General Physics I & II	8 credits
or		
PY 241 & PY 242	Physics I & II	8 credits

BI 140	Introduction to Organismal Biology	4 credits
BI 141	Introduction to Cellular & Molecular Biology	4 credits

Science and Mathematics Electives

BI 204	Microbiology
CH 210	Chemical Analysis
CH 301	Physical Chemistry I
CH 302	Physical Chemistry II
CH 303	Physical Chemistry Laboratory I
MA 200	Calculus I
MA 201	Calculus II
PY 240	Optics
PY 310	Modern Physics
Ch 410	Biochemistry I
CH 411	Biochemistry II

Student Right-to-Know Act

The Student Right-to-Know Act of 1990 requires Worcester State to make available to prospective and enrolled students the graduation or persistence rates of selected groups of students. This information is available for review through the Assistant Vice President of Enrollment Management (Administration Building, Room 355, Undergraduate Admissions Office (Administration Building, Room 248).

Academic Policies and Procedures

Academic Honesty

Academic integrity is an essential component of a Worcester State education. Education is both the acquisition of knowledge and the development of skills that lead to further intellectual development. Faculty are expected to follow strict principles of intellectual honesty in their own scholarship; students are held to the same standard. Only by doing their own work can students gain the knowledge, skills, confidence and self-worth that come from earned success; only by learning how to gather information, to integrate it and to communicate it effectively, to identify an idea and follow it to its logical conclusion can they develop the habits of mind characteristic of educated citizens. Taking shortcuts to higher or easier grades results in a Worcester State experience that is intellectually bankrupt.

Academic integrity is important to the integrity of the Worcester State community as a whole. If Worcester State awards degrees to students who have not truly earned them, a reputation for dishonesty and incompetence will follow all of our graduates. Violators cheat their classmates out of deserved rewards and recognition. Academic dishonesty debases the institution and demeans the degree from that institution.

It is in the interest of students, faculty, and administrators to recognize the importance of academic integrity and to ensure that academic standards at Worcester State remain strong. Only by maintaining high standards of academic honesty can we protect the value of the educational process and the credibility of the institution and its graduates in the larger community.

What Constitutes Academic Dishonesty?

Academic dishonesty includes intentional violations of accepted standards of ethics and academic integrity as well as negligent violations of standards that the individual reasonably should have known and followed. The following is not an exhaustive list of violations but provides guidelines for evaluating common areas of concern, such as cheating, plagiarism and falsification of information. Violations of academic honesty include:

1. **Cheating,** including but not limited to:
    a. traditional cheating methods including copying on exams or assignments, letting other students copy one's own work, using crib sheets in quizzes and tests, glancing at other students' work, or giving answers to other students
    b. giving or receiving unauthorized assistance in exams, laboratory exercises or other academic assignments or attempting to do so, or using unauthorized materials or information sources on tests or assignments, including communication via cell phones or computers or use of materials stored on or accessed by computer or other digital media, or collaboration between or among more than one student on an assignment that is supposed to be done individually

c. submitting someone else's work as one's own or allowing others to claim one's own work as theirs including misrepresenting one's identity in an online course or allowing others to do so

d. obtaining from any source an unauthorized copy of a test or assignment or portion of a test or assignment, and/or disseminating such material through any means including cell phone or computer.

2. **Plagiarism**, including but not limited to:

   a. use of other people's ideas, words, research or artistic creations without giving credit

      i. submitting any work, including homework, not done by the person who hands it in and whose name is on it

      ii. submitting papers or other work purchased, copied or obtained free in whole or part from another source, including papers from the internet or from another person, including a friend or a relative

      iii. using another person's unpublished ideas without permission, taking credit for another person's unpublished ideas, or taking sole credit for the product of joint efforts with another person

   b. improper or inadequate citation of material from books, professional periodicals, magazines, websites, unpublished reports, personal communications, images, graphic materials or other citable sources

      i. use of facts, data, or specific ideas without citing the source

      ii. inaccurate or incomplete citation of sources

      iii. quoting another's words without indicating it is a quotation

      iv. using extensive quotations in place of one's own ideas, even when cited

   Note: standards and forms for citation vary among disciplines and even among teachers. Students should ask their teachers about the expectations for any particular course or project.

3. **Misrepresentation** or falsification of information, including but not limited to:

   a. intentionally misrepresenting information to help make a point not supported by the work including misquoting or taking ideas out of context

   b. falsifying the collection or interpretation of data in a research project

   c. citing sources not used

   d. falsifying one's qualifications, including academic background or other experience.

4. **Seeking credit for the same work** in more than one course, including but not limited to:

   a. submitting the same paper or project, or significant parts of the same paper or project, to two or more different courses without getting permission from the professors who give the grades

   b. using the same internship or fieldwork experience for two or more different courses without prior permission from the professors and internship supervisors involved.

5. **Other academic misconduct,** including but not limited to:

   a. forging, damaging or changing examinations, grades or other academic material or records including written and/or electronic material and records

   b. interfering with or damaging another student's work including homework, papers, laboratory assignments, artistic creations or research projects

c. removing or damaging academic material or equipment, including electronic data, belonging to Worcester State or any other member of the Worcester State community

d. deliberately making a false report of academic misconduct or covering up an incident of academic misconduct.

What Are Possible Sanctions?

If the instructor chooses to resolve this issue without referring it to the Academic Judicial Board, he or she has the power to give the student penalties such as a warning, a new assignment or test to replace the one which was not done honestly, or a failing grade on the work in question or in the class. Instructors do not have the power to assign community service or to expel the student: those penalties are in the power of the Academic Affairs office/Academic Judicial Board only.

Typically, instructors will use these powers to deter the student from cheating in the future without branding the student as dishonest in any official record; they may warn the student that they will come forward with proof of this infraction if they hear that the student has repeated the offense. Instructors may choose to give warnings, require new work, and/or give failing grades on assignments will do so the first time a student turns in dishonest work; a failing grade in the class is usually reserved for repeat offenders and serious, deliberate offenses such as turning in work done by another student as one's own, using electronics to get answers during in-class exams, or stealing exams or answer keys before a test.

The student has the right to appeal any instructor's decision to the Academic Judicial Board which may uphold or change the instructor's decision.

The Judicial Board may assign penalties ranging from a warning to expulsion. Comprised of faculty, students, and administrators, its membership is designed to be aware of the differences between different kinds of academic dishonesty and of the strains and temptations that may lead to bad decisions.

Unless it is dealing with repeat offenders, the Judicial Board will probably respond to minor infractions with failing grades on the particular assignment in question or in the course. Deliberate dishonesty, such as use of answer keys or electronic aids during exams, theft of examination papers prior to the test, submission as one's own of work done by another student or found or purchased online, etc. should be grounds for a failing grade in the course, with community service hours in addition as a possibility.

Repeated infractions would put offenders at risk of expulsion, as would extremely serious offenses, like stealing an examination and sharing it with other students before the test or having another student take a test in one's place in an online course.

Students at risk of expulsion will be given a written warning, which they will be required to sign and return within 10 working days.

Acts that are not only dishonest, but criminal, like changing a grade through illegal access to Worcester State computers, can be punished by expulsion without prior warning.

Undergraduate Policies and Procedures for Handling Cases of Academic Dishonesty

1. Students' Rights

a. Students will have the presumption of innocence until proven guilty.

b. Students will continue their student status unless and until sanctions are imposed at the conclusion of judicial sanctions which would limit or remove this status.

c. Students are allowed to have an advisor of their choosing at hearings of the Academic Judicial Board. The advisor may counsel the student during the hearing but may not address the Board.

d. Students are allowed to view evidence against them.

e. Hearings at the Academic Judicial Board will proceed even if the student does not appear. However, the student's absence cannot be the reason a student is found guilty.

f. Students will be notified via certified mail if a report is being made concerning them in the Central File.

g. Students may review their records in the Central File within 45 days of the day Worcester State receives a request for access, as stated in FERPA.

h. Students may ask Worcester State to amend a record that they believe is inaccurate or misleading. They should write to the Vice President for Academic Affairs, clearly identify the part of the record they want changed, and specify why it is inaccurate or misleading.

   Students should submit to the Vice President for Academic Affairs written requests that identify that they wish to view their record(s) in the Central File. The Vice President will make arrangements for access and notify the student of the time and place where the records may be inspected.

   If the VP for Academic Affairs decides not to amend the record as requested by the student, Worcester State will notify the student of the decision and advise the student of his or her right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.

2. Initiation

In cases involving the violation of academic integrity, students and faculty are strongly encouraged to resolve matters without resorting to official judicial proceedings. If the faculty member and student are unable to resolve the issue themselves, the chair of the department in which the course was taken should be asked to mediate. If resolution is not possible at this level, the case will go to the Academic Judicial Board (refer to 3 below).

Faculty members and appropriate administrators are strongly urged to report any violations of academic integrity to the Academic Central File.

3. Academic Central File

An Academic Central File of students proven to have violated Worcester State's Academic Honesty Policy will be kept in the Office of Academic Affairs. Only the Academic Vice President or his/her designee will have direct access to the Central File. A file will only be created for a student upon a case's final resolution with a faculty member, with a department chair, or with the Academic Judicial Board.

Faculty members have the option of reporting students to the Academic Central File. Reports, which are statements of resolutions of cases and not allegations, that are sent to the Academic Central File must be supported with proof of some kind. For example, the instructor may submit a copy of a plagiarized paper along with a printout of the same paper from the internet. A faculty member who reports a student for the kind of cheating that can't be proved without a camera (copying from the person in the next chair, sneaking a peak at the book in a closed-book test, asking a classmate for an answer) must provide the reasons for the accusation in writing. Students who are added to the Academic Central File will be informed of the fact in writing.

Reporting a student is not necessarily linked to a disciplinary action; the faculty member still has discretion over whether to take the case to a judicial hearing. In special cases, when the Provost/Academic Vice President notices that a student has two or more

significant violations in the Central File, he or she can refer the case to the Academic Judicial Board, which may then initiate disciplinary proceedings against this student.

Faculty members who provide evidence that a student in their course has violated the Academic Honesty Policy may meet with the Provost/Vice President of Academic Affairs or his/her designee to find out if a student has a file, and if so, how many times he/she has been reported to the Academic Central File. Relevant information limited to the student's name and number of times he/she has been reported to the Central file may be disclosed to a faculty member to assist in making decisions regarding cases of academic honesty. The procedures by which students access these files will be the same as those for accessing their academic records. The Academic Judicial Board, in the course of deciding a case of academic dishonesty, may access a student's file. A student's files are purged according to current FERPA rules. Students' files are purged upon graduation, withdrawal, dismissal or transfer from Worcester State. When a student's file(s) have been purged, the student will be notified in writing by certified mail.

4. Academic Judicial Board

At any point beyond the departmental level, either the student or the faculty member may elect to take the issue to the Academic Judicial Board following the procedures outlined below.

a. A student may request an Academic Judicial Board hearing:

   i. Because she or he has been unable to resolve an accusation of academic dishonesty with a faculty member or the chair of that faculty member's department.

   ii. In response to a notice that an Academic Central File posting is to be made.

   The student makes this request, in writing, to the Chairperson of the Academic Judicial Board, in care of the Office of Academic Affairs.

b. Any member of the Worcester State community may report any student to the Academic Judicial Board for violations of the Academic Honesty Policy. Reports shall be prepared in writing, directed to the Chairperson of the Academic Judicial Board (in care of the Office of Academic Affairs), and submitted as soon as possible after the incident takes place, preferably within 30 days. The Chairperson has the authority to extend this timeframe on a case-to-case basis.

c. The Chairperson will determine if the complaint lacks merit and/or if it can be disposed of by mutual consent of the parties involved on a basis acceptable to the Chairperson. Such disposition shall be final, and there shall be no subsequent proceedings. If the case cannot be disposed of by mutual consent, the matter will proceed to the Academic Judicial Board.

d. All charges shall be presented to the accused student in writing via certified mail with return receipt requested; the same letter will also be sent by first class mail to the student's current address as registered with Worcester State. The hearing shall be scheduled not less than seven or more than fifteen calendar days after the student has been notified. All parties shall receive at least seven days advance written notice of the date, time and place of the hearing. Maximum time limits for scheduling of hearings may be extended at the discretion of the Chairperson.

e. The Chairperson will schedule an Academic Judicial Board hearing.

   i. The hearing will be conducted by the Chairperson of the Academic Judicial Board, chosen by the board members.

ii. The Academic Judicial Board is comprised of two faculty members, one administrator and two students. The faculty members are appointed by the MSCA. The administrative member is appointed by the Associate Vice President of Academic Affairs, in consultation with the Vice President of Academic Affairs. The student members are appointed by the Student Government.

iii. A quorum of three members must be present to convene a hearing.

f. Hearings shall be conducted by the Academic Judicial Board according to the following guidelines:

i. All procedural questions are subject to the final decision of the Chairperson of the Academic Judicial Board present at the hearing.

ii. Hearings shall be conducted in private.

iii. In hearings involving more than one accused student, the Chairperson of the Academic Judicial Board, at his or her discretion, may permit the hearings concerning each student to be conducted separately.

iv. The complainant and the accused each have the right to be assisted by an advisor from the Worcester State community. Advisors may counsel their respective party during the hearings, as permitted by the Academic Judicial Board. Advisors are not permitted to participate directly in the hearing.

v. The complainant, the accused and the Academic Judicial Board shall have the privilege of presenting witnesses to any violations of academic integrity. The accused and the complainant shall have the opportunity to cross-examine witnesses presented by the other. Members of the Academic Judicial Board shall have the right to question any witnesses.

vi. All hearings are closed to friends and relatives of the accused unless they were actual witnesses to the violation of academic integrity. Witnesses are excluded from the hearing except when called to testify.

vii. Pertinent records, exhibits and written statements may be accepted for consideration by the Academic Judicial Board at the discretion of the chairperson.

viii. After the hearing, the Academic Judicial Board shall determine by majority vote whether the student has violated Worcester State's standards of academic honesty.

ix. The Academic Judicial Board's determination shall be made on the basis of whether it is more likely than not that the accused student violated the rules of academic honesty in the manner charged against him or her.

g. A written record of Academic Judicial Board proceedings shall be made by the board or its secretary. This record shall be the property of Worcester State and will be housed in the Office of Academic Affairs. The record will state the final decision of the board, a statement of the board's findings of fact, its determination of the provision(s) of the Academic Honesty Policy, if any, that the student violated and the sanction(s), if any, imposed. The record may also include a summation of witness testimony. A copy of the final decision shall be given to the complainant and the accused.

h. Students may not be found to have violated the Academic Honesty Code solely because they fail to appear before a judicial body for a scheduled hearing. In all cases, the materials and information in support of the charges shall be presented

and considered, as the hearing will be held in the absence of the student, should he/she fail to attend.

i. In the absence of a functioning Academic Judicial Board or Academic Board of Appeals, such as during exams or during the summer and semester breaks, disciplinary hearings (under this Section 3, and the following Section 4) will be the responsibility of the Associate Vice-President of Academic Affairs or his/her designee. When he/she deems it appropriate, a hearing may be postponed until the beginning of the new semester.

j. Possible sanctions that the Academic Judicial Board could impose would depend upon the severity of the offense; however, the Board could choose to uphold the original faculty decision or impose another punishment, which might include failing the course, expulsion from the major or program, or expulsion from Worcester State.

5. Academic Judicial Board of Appeals

The purpose of the Academic Judicial Board of Appeals is to conduct procedural reviews of cases. It is not intended as an evidentiary panel. It is not the job of the Academic Judicial Board of Appeals to hear new evidence.

a. A decision reached by the Academic Judicial Board may be appealed by the accused student(s) or the complainant to the Academic Judicial Board of Appeals within five working days of the date of the decision letter. Such appeals shall be in writing and shall be delivered to the Associate Vice President of Academic Affairs or his/her designee.

b. The Academic Judicial Board of Appeals will consist of one administrator, two students and two faculty members and will be chosen in the same manner as the members of the Academic Judicial Board (see 3.e.ii. above). The administrator in this case, will be the Associate Vice President of Academic Affairs or his/her designee.

c. In cases where the student files an appeal, the complainant, and, in cases that were decided by Academic Judicial Board hearing, the Chairperson of that Board, shall be notified. In cases where the appeal is not initiated by the student, the student shall be notified.

d. An appeal is not a new hearing but is a review of the summation/record of the initial hearing and supporting documents for one or more of the following purposes:

   i. To determine whether the original hearing was conducted fairly in light of the charges and evidence presented, and in conformity with prescribed procedures.

   ii. To determine whether the finding of responsibility or no responsibility is supported by the weight of the evidence.

   iii. To determine whether the sanctions imposed were inappropriate.

e. When the appellant wishes to introduce new evidence, sufficient to alter a decision, or other relevant facts not brought out in the original hearing, because the person appealing did not know such evidence and/or facts at the time of the original hearing, the Chairperson of the Academic Judicial Board of Appeal (the Associate Vice President of Academic Affairs) will decide whether to instruct the Academic Judicial Board to convene a new hearing of the case. If a case is returned to the Academic Judicial Board for consideration of new evidence, all parties shall have equal opportunities to submit new material.

f. Upon completion of the appellate hearing, the Academic Judicial Board of Appeals shall promptly notify the accused student, the complainant and the chair of the

Academic Judicial Board of the outcome of the appeal. Said decision(s) shall take one of the following forms:

Appeal Upheld: the appellant's request for relief has been honored. In the case of an upheld appeal, the new findings/sanctions shall be stated;

or

Appeal Denied: the appellant's request for relief is denied and the finding(s) and/or sanction(s) stand.

g. In extraordinary circumstances, the Associate Vice President of Academic Affairs or his/her designee may waive the deadline for filing an appeal. The decision to waive or not to waive a deadline shall be final and shall not be subject to any appeal.

h. No disciplinary sanction shall be imposed while an appeal is pending unless the Associate Vice President of Academic Affairs determines that such action would be in the best interest of the Worcester State community.

6. Administrative Failing Grade

In cases where the sanction for academic dishonesty is determined to be a failing grade for the course, the registrar will be informed immediately. The registrar will record an administrative failure. Such a grade is not subject to withdrawal or appeal. A student who receives a failing grade for a course due to a violation of academic honesty cannot eradicate that failure through the normal grade appeal process or by withdrawing from the course.

Matriculation

Matriculation is a process whereby students are admitted to Worcester State and pursue a formal course of study leading to the bachelor's degree, second major, certificate, professional certification or master's degree.

General Requirements for the Baccalaureate Degree

Candidates for a baccalaureate degree must complete 120 semester-hour credits with a 2.0 Cumulative Grade Point Average (GPA) and a minimum 2.0 GPA or higher in the departmental and ancillary courses of the major field of concentration. To receive a baccalaureate degree from Worcester State, a student must:

- complete 30 of the last 40 credits at Worcester State;
- earn a majority of credits in the major at Worcester State;
- earn a majority of credits in the minor (if elected) at Worcester State.

Students completing their degrees within six years must meet the degree requirements of the catalog under which they enter Worcester State. After six years, students are subject to the degree requirements of the catalog in effect for their year of graduation.

Second Baccalaureate Degree: A student who holds a bachelor's degree from Worcester State or another four-year institution of higher education accredited by regional accrediting agencies may be awarded a second bachelor's degree by completing a minimum of 30 additional semester hours of prescribed work at Worcester State after matriculation into the second degree program. Twelve semester hours of the 30 must be in upper- level work in the student's major, and the student must meet all requirements for that major. In addition, in order to be granted a second degree, the student must meet all current catalog requirements for a baccalaureate degree at Worcester State, as follows:

- All courses from the former institution which the Office of Admissions deems usable towards fulfillment of the foundation, general education requirements, and the LASC requirements currently existing at Worcester State will be transferred to the student's second baccalaureate program.
- All courses transferred into the student's major for the second degree are subject to the approval of the Department Chair.
- As many credits from the former institution as are deemed appropriate by the Office of Admissions will be transferred to the student's second degree program as elective credits (up to and not to exceed 90 credits).

Post-baccalaureate students who seek a second major but do not seek a second baccalaureate degree at Worcester State will receive a letter from the Registrar certifying completion of the second major upon completion of all prerequisites to the major and all requirements of the major. **After matriculation into either post-Baccalaureate program, no additional transfer credits will be allocated as graduation credit.**

General Education Requirements

Track I
For first-year students admitted and matriculated in fall 2009 or later only.

Track II
For transfers students and all students matriculated prior to the fall 2009

Beginning with the academic year 2009-2010, first-year students will fall under Track I, the new program of general education: the Liberal Arts and Sciences Curriculum. Students matriculated prior to fall 2009 and transfer students will fall under Track II, the general education requirements in place prior to the fall 2009.

Track I

General education requirements for first-year students admitted and matriculated in fall 2009 or later only.

The Liberal Arts and Sciences Curriculum (LASC)

An education in the liberal arts and sciences enables students to understand their world, and it equips them to analyze, appreciate, and affect that world. With these aims in mind, the faculty at Worcester State have designed the Worcester State Liberal Arts and Sciences Curriculum (LASC) to ensure breadth both in the range of subjects that students will encounter and in the range of approaches to that material. In addition, the Liberal Arts and Sciences Curriculum emphasizes the fundamental abilities and attitudes that make it possible to benefit fully from a liberal education. While the specialization provided by a student's major field of study is essential to a Worcester State education, the breadth and integration provided by the Liberal Arts and Sciences Curriculum supplies an invaluable context for understanding the wider world.

Given the crucial importance of languages other than English in today's global society, Worcester State strongly encourages the study of world languages, through the majors and minors, and also through combining the requirements in Global Perspectives and Thought, Language and Culture. Students may also choose to study languages through their elective courses.

The Liberal Arts and Sciences Curriculum is aimed at achieving the following student learning outcomes. Having completed classes in the Liberal Arts and Sciences Curriculum, students will:

- Demonstrate effective oral and written communication.
- Employ quantitative and qualitative reasoning.
- Develop and apply skills in critical thinking.
- Develop and apply skills in information literacy.
- Display an appreciation for the interrelations among global and cross-cultural communities.
- Develop a critical understanding of the U.S. experience.
- Understand the roles of science and technology in our modern world.
- Demonstrate and value personal creative expression.
- Understand how scholars in various disciplines approach problems and construct knowledge.

- Display socially responsible behavior and act as socially responsible agents in the world.
- Make connections across courses and disciplines.
- Develop as healthy individuals – physically, emotionally, socially, ethically, and intellectually.

Students will complete courses in eight content areas. At least twelve of those content credits must be at the 200 level or higher. Courses in the Liberal Arts and Sciences Curriculum will not generally serve as major courses. In addition, students will take courses identified as Math Across the Curriculum (MAC, 3 credits), Writing Across the Curriculum (WAC, 6 credits), and Diversity Across the Curriculum (DAC, 6 credits), which may be selected from the Liberal Arts and Science Curriculum, major requirements, or electives.

First-year Seminar
All first-time, first-year students will be enrolled in and must complete a first-year seminar. The first-year seminar will be a three-credit course with enrollment limited to 20 students and taught exclusively to first-year students in a seminar format. Any make-up of the First-year Seminar requirement must be successfully completed within the first 60 credits of study.

The courses will:

- Engage beginning Worcester State students and explore diverse topics that are more controversial or more narrowly focused than standard introductory courses.
- Encourage students to apply the knowledge that they acquire to address specific problems and challenges within Worcester State, the community, and the world.
- Encourage students to be active, reflective learners.
- Include assignments or activities that orient students to and require the use of the library, educational technology, standard methods of reference and citation, that address the issues of plagiarism and academic honesty, and that require writing and at least one additional competency, (for example oral presentation or quantitative analysis).
- Meet the criteria for one of the Liberal Arts and Sciences Curriculum content areas, so that they will not require additional credits.
- Encourage students to participate in student life and community activities that are part of the first-year experience. This may include allocating 15% of the final grade to community issues.

Writing
(6 credits) Students must complete one (three credit) course devoted to addressing the rhetorical abilities necessary for effective college writing and an additional (three-credit) course emphasizing formal academic genres, academic research skills, and the presentation of information to academic audiences. Currently EN 101 and 102 fulfill this requirement. Students who are exempt or waived from EN 101 will have to complete an additional three credits (currently EN102). Students who are exempt or waived from both EN101 and EN102 will have fulfilled the writing requirement. Students who are enrolled in EN250H will have met their writing requirement upon successful completion of EN250H.

Constitutions
(3 credits) Students must complete one course that teaches the constitutions of the United States and the Commonwealth and which may be selected from the Liberal Arts and Sciences Curriculum, the major field, or electives. Courses which meet this requirement will:

- Require students to study the Constitutions of the Commonwealth of Massachusetts and of the United States

- Consider the historical context, addressing
  - Antecedents in English law
  - Idea of written fundamental law
  - Context of colonial history
  - Failed predecessors (the 1778 constitutions and the Articles of Confederation)
  - Mechanism of drafting, ratification and amendment
  - Influence of the Massachusetts Constitution on the U.S. Constitution
- Consider political thought in contemporary society, addressing
  - How each constitution shapes modern life
  - Differing interpretations, including by the courts
  - Current issues related to each constitution
  - Basic national, state and/or local political processes, and the rights and obligations of citizenships

Quantitative Reasoning
(3-6 credits) Students must complete one course devoted to addressing the formal and numerical reasoning skills necessary to complete college level work and to use quantitative reasoning to analyze complex problems facing the world today. All students must pass the Math Placement Test at the stipulated level. In this category students must complete a course with the MA (mathematics) prefix within their first 60 credits of study.*(Exceptions to this time frame may be necessary for transfer students.)*

In addition, courses in this area:

- Acquaint students with formal systems, procedures, and sequences of operations.
- Strengthen students' understanding of variables and functions.
- Apply mathematical techniques to the analysis and solution of real-life problems.
- Develop an understanding of and facility with statistical analysis, including an understanding of its applications and limitations. Courses meeting these criteria must emphasize why statistical inference works and not simply how to use statistical techniques.
- Strengthen understanding of the relationship between algebraic and graphical representations.
- Emphasize the importance of accuracy, including precise language and careful definitions of mathematical concepts.
- Understand both underlying principles and practical applications of one or more fields of mathematics.

Students will complete one additional course under Quantitative Reasoning or one additional course under Natural Systems and Processes.

Natural Systems and Processes
(7-12 credits) Students must complete a minimum of two courses. At least one of the courses taken in this area must have a lab component. At least one of the courses must be a science course. These two requirements may be met by one course. Courses in this area:

- Study physical and natural systems and processes.
- Apply scientific models, theories, and technology to problems facing society.
- Have an analytical and/or quantitative component and include interpretation, communication and/or presentation of data and results.
- Compare and contrast various modes of scientific inquiry.
- Place scientific inquiry within its historical and contemporary contexts.
- Use and reflect on the scientific method of investigation.

- Address the strengths and limitations of scientific inquiry in human understanding.
- Encourage students to become scientifically literate citizens and be able to evaluate scientific information.

Students will complete one additional QR course OR one additional Natural Systems and Processes course for a minimum of four courses across the two areas.

The United States and Its Role in the World
(3 credits) Students must complete one course. Courses in this area:

- Study cultures, histories, and social practices in the U.S., including consideration of the ways that differences in power affect different racial, ethnic, gender, and cultural groups as evidenced by readings, texts, testimony, and narratives.
- Address issues of economic and political power that shape the U.S. and the world
- Trace the roots and development of U.S. political and economic institutions at home and around the globe.
- Focus on particular aspects of U.S. culture and how understanding them helps to illuminate the larger context of U.S. society and its role in its world.

Global Perspectives
(6 credits) Students must complete two courses. Courses in this area:

- Study the culture, history, or language of a nation or geopolitical area other than the U.S.
- Consider culture, power and place in phenomena such as globalization, cultural colonialism, transnationalism, and human rights.
- Investigate issues about the environment and sustainable development in phenomena such as the use of natural resources and macroeconomic problems that affect people and ecosystems around the world.
- Study governance, peace and justice in a global context.
- Analyze the international political economy in relation to governments, enterprises, societal groups and communities from different countries.
- Consider issues such as race, class, gender, age, sexuality, language, ability, indigenous populations, transnational labor and refugee migration.

Thought, Language and Culture
(6 credits) Students must complete two courses. Courses in this area:

- Explore human thought, history, culture, art, literature, and language (including world languages).
- Present the subject in the context of competing theoretical frameworks, for example, about race, gender, historiography, textual analysis, or cultural interpretation.
- Synthesize approaches from different disciplines.
- Explore problems of ethics, politics, aesthetics, epistemology, and metaphysics.
- Use original works as the primary object of study.
- Require discursive written work, including standard references and citations, for evaluation or extensive written work in a second language.

Human Behavior and Social Processes
(6 credits) Students must complete two courses. Courses in this area:

- Develop an understanding of how factors such as market forces, politics, demographics, physical environment, and culture affect individual behavior and thinking.
- Examine political, economic and social structures and the interplay between the individual and society.
- Explore the ways in which the individual is an agent in shaping and understanding his or her own experiences.
- Consider the ways in which individual and social roles and identities are socially constructed.
- Show how the results of social research can be used to effect social change.
- Teach the differences between and appropriate uses of qualitative and quantitative research methods.
- Investigate the ways in which scientific inquiry is value-laden.
- Help students understand the ways in which the various social sciences inform one another.

Individual and Community Well-being
(3 credits) Students must complete one course. Courses in this area:

- Explore the growth and development of the individual and address the interconnected dimensions of well-being.
- Study and evaluate the ways that the local, state, national, or private sectors frame and implement social policies, and the consequences of these policies for well-being.
- Examine social structures and practices such as urban and rural development, planning, funding allocations, and legislative initiatives designed to secure the well-being of the community.
- Examine the short and long-term consequences of beliefs, behaviors and policies that affect the well-being of individuals and communities.
- Address the role of prevention strategies in promoting well-being.

Creative Arts
(6 credits) Students must complete two courses. Courses may focus on practice (a performance or studio experience in art, music, or theater) and/or studies (a critical, theoretical, or historical examination of the arts). Courses in this area:

- Encourage recognition that artistic expression varies from one society and culture to another.
- Explore different traditions, styles and historical periods in the arts.
- Promote freedom of expression and tolerance of divergent viewpoints.
- Consider the importance of aesthetics and instill an awareness of how the arts improve the quality of life.
- Enable each student to cultivate his or her creative potential.
- Teach the terminology, techniques and skills that comprise the arts in order to provide the framework for informed creativity.

Courses Across the Curriculum
In addition to the requirements outlined above, students will be asked to complete two Writing Across the Curriculum (WAC) courses, two Diversity Across the Curriculum (DAC)

courses, and one Math Across the Curriculum course (MAC). These requirements may be met through the major, electives, and other Liberal Arts and Sciences Curriculum courses and need not add additional credits to the student's program of study.

Capstone Experience
(1-4 credits) Students will be required to complete a capstone seminar (usually in the senior year.) This capstone experience may be offered within the major field of study for variable credit (1 to 4 credits), so that students can synthesize the information they have learned in the major. Alternatively the capstone may be a three credit interdisciplinary course which is offered within the Liberal Arts and Sciences Curriculum and which synthesizes materials from more than one discipline. Preferably, this second option will be co-taught by members of different disciplines. Credits earned in a major capstone will count toward the major requirements. Credits earned through an interdisciplinary capstone will count as an upper level Liberal Arts and Sciences Curriculum requirement. Both types of capstone experiences will have enrollment limited to 20 students.

Writing Across the Curriculum
(6 credits) Writing Across the Curriculum: Students must complete two writing-intensive (WAC) courses after completing the writing requirement (currently EN 101 and 102). Students may count one WAC course in a language other than English toward this requirement. Placement at the 300-level in a language other than English will satisfy the prerequisite for WAC courses in that language. Any course in the Worcester State Liberal Arts and Science Curriculum, individual major requirements, or elective may qualify as WAC if it meets the following criteria. Courses labeled WAC:

- Require a variety of formal and informal writing assignments. Formal writing assignments may include traditional essays and research papers, case studies, process analyses, and reports on research findings. Informal writing assignments may include journals, lab notebooks, reading responses, and in-class essay examinations.
- Offer students instruction in the conventions of writing for a particular discipline.
- Assign writing of different lengths and different formats, for a minimum total of approximately 2500 words (or ten pages) during the course of the semester.
- Provide opportunities for revision.
- Incorporate clear explanations of assignments and various approaches to instruction such as workshops, individual conferences with the instructor, and/or assignment criteria handouts.
- Offer different types of feedback, such as traditional grading and evaluation, peer review groups, self-assessment, and writing center sessions.

Transfer students: For those students transferring to Worcester State with 89 credits or fewer, there will be a two-course WAC requirement. Students transferring to Worcester State with 90 or more credits must complete one WAC course.

Diversity Across the Curriculum
(6 credits) Students must complete two courses, which may be selected from the Liberal Arts and Sciences Curriculum, the major field, or electives. Courses in this area address issues of social and cultural diversity in the United States and/or in the world. These may include differences in race, religion, ethnicity, language, national origin, gender identity, sexual orientation, regional background, abilities, and/or age. Additionally, courses in this area:

- Study historical experiences, cultural patterns, and social advantages and disadvantages of different groups within the society.

- Explore social problems such as racism, prejudice, discrimination, and exploitation as both mainstream and non-mainstream groups experience them.
- Examine the diversity within each group's experience and how such experiences are dynamic and continuously changing.
- Help students develop a sound knowledge of the methods of thinking about issues of diversity, particularly the ability to distinguish facts from interpretations and opinions.
- Include materials written by as well as about persons from diverse groups.
- Develop an appreciation/respect for members of diverse groups.
- Demonstrate how to communicate culture-specific and/or culture-general ways with diverse groups in various contexts.

Mathematics Across the Curriculum
(3 credits) Students must complete one MAC course after completing the quantitative reasoning course. Any course in the Liberal Arts and Sciences Curriculum, major course, or elective course may qualify as a Math Across the Curriculum course. Courses identified as MAC:

- Enable students to appreciate that mathematics is itself a domain of knowledge, rich in ideas, not just algorithms.
- Engage students in mathematical ideas and show them how mathematics is connected to other areas of study.
- Improve the quantitative and mathematical skills of students, and help them better appreciate the importance and utility of mathematics.
- Use mathematics as a language informing humanistic ideas.
- Provide an interdisciplinary experience for students. An example could include working with a professor in the Mathematics Department to develop a math-intensive module to be inserted into a course syllabus.
- Enable students to examine a given problem, situation, or experiment, ask suitable mathematical questions, and draw various conclusions and interpretations through the application of mathematics.
- Enhance students' knowledge about how mathematics is used in various disciplines by devoting a substantial proportion (minimum 25%) of the course assessment to mathematics. Examples would include problems in the field that require mathematical solutions.

Track II

General education requirements for transfers students and all students matriculated prior to fall 2009 only.

Track II: Foundation Requirements

****English Composition:** **6 Credits**

EN 101 English Composition I*, EN 102 English Composition II
*unless waived by the Department of English.

NOTE: Students whose assessment scores indicate the need will be required to take Pre-composition during the first year. This course carries 3 developmental credits.

****Mathematics:** **3 Credits**

All students will complete one three-credit course, ordinarily during the first year. Before enrolling in a college mathematics course, the student may have to participate in the mathematics laboratory, a developmental self-paced exercise for students whose Accuplacer test scores indicate the need.

NOTE: Students whose assessment scores indicate the need will be required to take Developmental Math during the first year. This course carries 3 developmental credits.

Constitutions: **3 Credits**

All students will complete, prior to graduation, one course in which the constitutions of both the United States and Massachusetts are studied (Massachusetts General Laws, Chapter 73, Section 2A). Courses which satisfy this requirement include:

HI 111 and HI 112, US History I and II; HI/PO 218 and 219,
US Constitutional History I and II; PO 102, Constitutions: US and
Massachusetts; and PO 210, American Government.

Foundation courses may not be taken on a pass/fail basis. Courses taken to fulfill foundation requirements cannot also be used to fulfill distribution requirements.

***Placement testing is required before registration into these courses. This is done through the Academic Success Center, 508-929-8139.*

Track II: Distribution Requirements

Worcester State requires a specified number of credits in the humanities, the behavioral and social sciences, the natural sciences, mathematics, and fine arts, and health studies. Students may select from a broad spectrum of courses in each of these areas. The distribution requirements may be met in any year of the undergraduate program, but students are advised to complete them insofar as possible during the first two years of study. The following restrictions apply:

a) No course within a student's first major discipline may be used to satisfy any distribution requirement.

b) A student may apply no more than 6 credits in a given discipline within a group toward the satisfaction of a distribution requirement; e.g., Humanities: 6 credits in English and 6 credits in History would satisfy the requirement; 9 credits in English and 3 credits in History would not.

Group I: Humanities **12 credits**

Students will complete **four courses** (minimum of 12 credits) selected from the disciplines of:

English
Foreign Languages

History
Philosophy
Communication (excluding courses that apply to Group IV).

Group II: Behavioral and Social Sciences **12 Credits**

Students will complete **four courses** (minimum of 12 credits selected from the disciplines of:

Cultural Geography ("GE" prefixes)
Economics
Education
Political Science
Psychology
Sociology
Urban Studies

Group III: Natural Sciences and Mathematics **13 Credits**

Students will complete **four courses** (minimum of 13 credits), at least one of which must be a science laboratory course selected from:

Biology
Chemistry
Geology/Physical Geography ("GS" prefixes)
Mathematics
Natural Science
Physics

Group IV: Fine Arts **9 Credits**

Students will complete **three courses** (minimum of 9 credits) selected from:

Art
Communication*
Music
Theatre
Visual and Performing Arts

*The following Communication courses are considered fine arts offerings and can be used to satisfy **Group IV:** CM 150, CM 151, CM 160, CM 231, CM 241, CM 244, CM 247, CM 250, CM 259, CM 260, CM 360, CM 366, CM 374, CM 396.

Group V: Health Studies **3 Credits**

Students will complete either one 3-credit health course or three 1-credit activity courses. This basic requirement may be waived upon validation of completion of military basic training; ROTC students receive a 1-credit exemption for each year of ROTC completed.

Laptop and Technology Requirement

Entering full- and part-time first-year and transfer students are required to own a laptop computer when they arrive on campus.

First-year Experience Requirement

First-year Seminar Requirement

Students who enter Worcester State as first-time first-year students must enroll in a first-year seminar—a course outside the student's major, which focuses on a special topic or problem, and which is designated by FS and followed by the department and course number designations. Students may choose from a variety of first-year seminars that are offered each year. First-year seminars differ from other courses in that they have a limited enrollment, are designed for first-year students, and emphasize the academic tools necessary to ensure a successful Worcester State experience. First-year seminars are designed to meet one of the General Education distribution requirements.

Electives

Having met the general education requirements and those of the major (and minor, where applicable), a student may elect other courses without restriction to complete the 120 semester hours of credit necessary for graduation. Since the purpose of elective courses is to encourage exploration in diverse fields of knowledge, students are urged to take advantage of the opportunity to broaden and deepen their intellectual development.

Intent to Graduate

The degree and diploma will be granted within 60 days of the final day of examinations for the semester in which degree requirements have been met providing that students have adhered to the following deadlines for filing an Intent to Graduate form:

December completion:	Last Friday of October
May completion:	Last Friday of December
August completion:	Last Friday of May

Program

A program is an approved academic course of study whether it be a major, minor or concentration.

Major/Minor

Major: Upon or after admission to Worcester State, and in any case prior to the beginning of the junior year, degree seeking students declare an intent to major in a specific discipline or an approved interdisciplinary area. In general, a major is completed by earning between 30 and 48 credits with a minimum GPA of 2.0. Students may take additional electives in their major if desired. Courses are selected under the direction, and with the approval of the student's faculty advisor in the major. No course from a student's first major discipline may be used to fulfill the distribution requirements.

Declaration: A department and/or an appropriate interdisciplinary committee administering an interdisciplinary major may establish standards for admission of enrolled students into their major and minor programs. The standards are not based solely on any GPA. They may be based on grades earned in prerequisite courses, demonstration of special knowledge and skills through test, portfolios, interviews, and other relevant criteria. Departments and interdisciplinary major administering committees must have standards approved by the All College Committee. A minimum GPA at variance with Worcester State's policy may not be used as a standard for retention as a major or minor student within a department and an interdisciplinary program. Transfer credits must be approved by the major department or the corresponding program administering committee. Not more than 2 courses from the second major may be used to fulfill distribution requirements.

Minor: Although not required for graduation, a minor may be completed by earning between 18 and 24 credits in a discipline other than the student's major discipline and/or in an interdisciplinary program.

Changing Major or Minor: A student wishing to change a major or minor field of study completes the Declaration/Change of Major/Minor Form at the Office of the Registrar. A request for a change in major or minor must be made in the Fall by mid-October and in the Spring by mid-March. Forms for the declaration or change of a major/minor are available at the Office of the Registrar.

Note: A student wishing to declare/change into Criminal Justice, Education, Nursing, or OT must obtain approval from the Chair of the department.

Concentration

A concentration is a specialized track within a major or an approved interdisciplinary track study. The number of credits and courses of study required to earn a concentration within a major is determined by the major department or the program administering committee.

An interdisciplinary concentration may be completed by earning between 12 and 17 credits in a specified course of study as determined by the program administering committee.

Certificate

A certificate is a course of study leading to a professional credential or certification. The number of credits or courses required is determined by the program offering the certificate.

Academic Advising

A student is assigned a faculty member from his or her major department to serve as advisor in the selection of courses, changes in schedule, and all other academic matters. Undeclared students have faculty/academic advisors assigned as well. The student meets with the academic advisor during the regularly scheduled advising period each semester to review academic progress and select courses for the coming semester. During the registration period the advisor signs the registration form which the student presents in order to enroll in classes. All advisors have office hours so the student should contact the advisor whenever information or an opinion on an academic matter is needed. Refer to the *Academic Advising Handbook* online (www.worcester.edu/handbook) or the Academic Success Center for further information.

Faculty advisors must approve all courses taken off-campus using appropriate forms available in the Office of the Registrar.

Academic Support Services

Academic Success Center

The Academic Success Center is located in the Administration Building, Room 130. It focuses on:

- Advising (for new first-year students, transfer students and undeclared students)
- Placement testing
- Special first-year initiatives such as the First-year Programs
- Organization of student workshops that deal with academic issues
- Tutoring for all academic subjects

Peer Advisors: The Academic Success Center sponsors a team of Peer Advisors who can provide academic information about programs, policies, and procedures. New students and those unsure of their choice of major are encouraged to drop-in and speak with these students who are resources for support and referral.

Tutoring Services

The aim of Tutoring Services is to increase student academic effectiveness. After a preliminary assessment, assistance is provided on a one-to-one or small group basis. The primary thrust of the service is directed toward 100- and 200-level courses, as this is the time when students are learning how to adjust to college level study. The focus, therefore, is on learning how to learn rather than on content area tutoring. Accordingly, tutors assist students in improving their study skills, test-taking skills, and time management skills.

Students who think they may need academic assistance in order to achieve their educational objectives should visit the Academic Success Center as soon as possible to maximize the benefit of the service.

Math Lab Services

The Worcester State Math Lab, housed next to the Math Department (S143), is staffed with a supervisor and peer tutors with day and evening hours (Monday through Friday). Its main function is to offer students, who have not received a passing score on the Accuplacer Arithmetic and/or Elementary Algebra test, resources for skill development.

This lab offers developmental tutoring on a walk-in basis and houses the mathematics library as well as tutorial software. Any student in need of refreshing their mathematics skills, or tutoring for MA 098 and MA 099, may use this lab which has both a wireless network connection for lap-top users and several desktop computer stations.

The Writing Center

Located in Sullivan 306, the Writing Center is a resource available free of charge to all members of the Worcester State community. The Writing Center is staffed by graduate assistants and peer tutors who represent a variety of majors and interests. Sessions can be arranged on an appointment or drop-in basis, and the staff of the Writing Center can address basic and advanced writing needs. The Writing Center also hosts Writenet (www.worcester.edu/owl), an online writing center that offers instruction and support over the World Wide Web.

Worcester State Honors Program

Worcester State offers selected students the option of partially fulfilling their distribution requirements through participation in the college-wide Honors Program. The purpose of the Honors Program is to present students with a diverse, innovative, and stimulating learning environment that is composed of interdisciplinary and multicultural courses taught, whenever possible, in small sections. Students are encouraged to contact the Honors Program Director for information regarding admission into the program.

To continue in the Honors Program, the student must; complete a total of twenty-one credits in honors courses (six 3-credit courses and a 3-credit capstone experience during their first year, sophomore year, junior and/or senior years).

Commonwealth Honors Scholars: Successful completion of the honors courses and a senior thesis will qualify the student to become a Commonwealth Honors Scholar. The Commonwealth Honors Program is a collaboration of select Massachusetts institutions of higher education that provides the student with unique educational opportunities through state-wide conferences, shared cultural activities, and cooperative academic and research support. A student need not be a Commonwealth Honors Scholar to complete the President's Scholars Honors Program in good standing.

Dean's List (posted for matriculated undergraduate students only)

Full-time Students: Following the completion of each semester, the names of all students enrolled for a minimum of 12 graded credits excluding courses taken on a pass/fail basis and whose GPA for that semester is 3.5 or better will appear on the Dean's List. The distinction will be noted on the student's transcript.

Part-time Students: Following the completion of each semester, the same criteria for honors for full-time students will be applied to part-time day and evening students. Students must have an academic load of a minimum of six credit hours excluding courses taken on a pass/fail basis. The names of students whose GPA for that semester is 3.5 or better will appear on the Dean's List. The distinction will be noted on the student's transcript.

Any student receiving an incomplete grade in a semester is ineligible for academic honors in that semester.

Graduation Honors

According to the degree of academic excellence, graduates may be awarded the distinctions of cum laude, magna cum laude, or summa cum laude. Students graduating with honors must attain the following cumulative GPA based on all credits earned at Worcester State (minimum 60 credit hours for transfer and second degree students).

Cum Laude	3.5–3.69
Magna Cum Laude	3.7–3.89
Summa Cum Laude	3.9–4.00

Academic Achievement Awards Ceremony

Conducted annually, the Academic Achievement Awards Ceremony gives special recognition to Worcester State students who excel academically. Students so honored include those achieving the highest grade point average in individual disciplines, scholarship recipients, special academic award recipients, Dean's List and honor society inductees.

Registration and Course Information

Pre-registration for returning students is scheduled in the fall and spring of each academic year for advance course selection. The order of registration proceeds from seniors to first-year students. **Class determination** is made at the completion of the Fall semester and at the end of summer sessions. **A student's registration is not considered official until all financial obligations are met.**

Course Numbering: The 100 level offerings are introductory or survey courses that generally do not require prerequisites. The 200 level courses are intermediate and may require prerequisite courses. The 300 level courses are advanced and require prerequisite courses. The 400 level courses are generally for seniors and include seminars, independent study, and internships. Courses at the 900 level are open only to post-baccalaureate students.

Prerequisites represent an essential body of knowledge and skills necessary for students to succeed at an acceptable level in a course and/or are required to satisfy licensing and certification standards. Specific prerequisites are required for many courses and in certain professional studies leading to licensing and certification. Prerequisites may be waived by the instructor or department chair of the department offering the course.

Corequisites are courses which support the successful completion of certain other courses when taken concurrently. When a corequisite is listed for a course, the students are advised to register for both at the same time. In some cases, prerequisite/corequisite classes may fulfill distribution requirements.

Course Credit is counted in units called semester hours. The number of semester hours carried by a particular course is indicated in the course description. Twelve to 19 semester hours of credit per semester are considered a full-time schedule of study.

Course Overload: Special permission is required for students to register for more than 19 semester hours of credit. Forms are available at the Office of the Registrar and advisor/ department and Dean's approval are required.

Course Repeat: Students in academic difficulty who wish to repeat a course must file a course repeat form with the Registrar. Only the higher of the two grades is computed in the cumulative GPA. Students will not receive credit for a course more than one time except for PE100 and MU102, 220, 225 and TH321 and may include departmental special topics courses. Both the old and new grade appear on the transcript. Course repeats must be taken at Worcester State.

Adding or Dropping a Course: Students may add/drop courses in accordance with the deadline published in the academic calendar. It is the student's responsibility to return the completed form(s) to the Registrar's Office. After the deadline, students wishing to drop a course must follow the procedure for withdrawal.

Withdrawal From Courses: W. A student may withdraw from a course at any point up to one week after failure warnings have been issued. Choosing to withdraw is a serious matter which may affect a student's class standing, full-time status, financial aid, etc. A student considering such a step should seek advice from the instructor or the faculty advisor. To withdraw from a course, a student must obtain a Course Withdrawal Form from the Registrar's Office and follow the prescribed steps. **Mere non-attendance at class does not constitute official withdrawal and may result in a failing grade.**

In cases of academic dishonesty, the W grade may be reversed.

All "W" grades are permanently recorded on the student's transcript. **A student who withdraws from all courses will be considered withdrawn from Worcester State, and must file a formal intent to withdraw with the Academic Success Center.**

Students who receive any form of Financial Aid or Veterans Educational benefits should consult with the respective office PRIOR to dropping or withdrawing from a course. Reducing hour credit load may adversely affect eligibility to receive Financial Aid or Veterans Educational benefits. In addition, most private insurance companies require that students be full-time (12 credits or more) to be eligible for coverage.

Quality of achievement is represented by the following letter grades with associated points per semester hour of credit.

A	4.0 - points per semester hour credit
A-	3.7
B+	3.3
B	3.0
B-	2.7
C+	2.3
C	2.0
C-	1.7
D+	1.3
D	1.0

D-	0.7
E	0.0 - no credit, included in calculation of GPA
I	a temporary grade, not computed in the GPA
P	pass/fail option; credit, not computed in the GPA
F	pass/fail option; no credit, not computed in the GPA
W	withdrawn; no credit, not computed in the GPA
AU	Audit

Grade Point Average (GPA): At the end of each semester (and/or summer session), a semester GPA is calculated by dividing the total number of credits attempted (excluding grades of I, P, F, W) into the sum of the products of points and credits for **all courses taken.**

A Cumulative Grade Point Average reflecting the entire history of a student's achievement at Worcester State is also computed. The Cumulative GPA is a major factor in determining class membership, academic standing, and eligibility for academic honors. **Only grades earned at Worcester State are computed in the cumulative GPA.**

Audit Procedure Policy: Students electing to audit may attend classes but will not earn grades or be permitted to submit assignments or take examinations. No academic credit is awarded, but the student receives the benefits of course lectures and discussions. Consent of the instructor is required to enroll in a class as an auditor.

Only students who are not matriculated undergraduates at Worcester State are eligible to audit undergraduate courses. Also ineligible to audit courses are Consortium, CAPS, dual enrollment, and foreign exchange students.

The audit option must be declared at the time of pre-registration or registration. Students cannot switch to credit-bearing status or from credit-bearing to audit status after registration. Audited courses do not count toward load for any purposes (e.g., financial aid, veterans' benefits, etc.) The audit will be permanently recorded on the student's transcript.

Pass/Fail: Students may elect up to two courses per semester on a pass/fail basis. **Foundation courses and courses within major(s) and minor(s) disciplines may not be taken pass/fail, even when not applied to specific degree requirements.** Students must notify the Registrar's Office at least **four** weeks prior to the last scheduled day of classes if they intend to take a course on a pass/fail basis. Similarly, students deciding to change from pass/fail status to standard grading must notify the Registrar's Office by the same deadline, **four** weeks before the final day of classes. Once a student decides to change from pass/fail status to standard grading, it is not reversible; the letter grade stands. No more than fifteen (15) hours may be taken on a pass/fail basis. No more than two courses in any given semester may be taken pass/fail.

Independent Study: A matriculated student desiring to conduct an independent study must select an instructor and prepare a written contract containing the content and credit hours of the study. The approved contract should be submitted to the discipline during the pre-registration advising period but no later than the first week of the add-drop period. One to six hours of credit may be granted for one semester of independent study. No more than 12 credits in independent study may be granted toward the baccalaureate degree. In no event may the total number of credit hours earned in independent study at Worcester State exceed 10% of the credit hours counted toward a Worcester State degree. The student must provide a copy of the approved contract to the department chair, major advisor, the instructor and the Registrar's Office no later than the last day of the add-drop period.

Incomplete Grades: When circumstances (e.g.: illness) prevent a student from completing a course on time the student is responsible for requesting an incomplete. The professor may grant an incomplete provided the student had completed a substantial portion of the

course requirements. The student must make arrangements with the professor to complete the course within six weeks of the beginning of the next semester. The academic calendar indicates the deadline for resolving incompletes from the previous term. If the requirements are not met within the appropriate period, the incomplete will automatically become an "E," and so recorded on the student's permanent record.

An extension of an incomplete for one semester may be granted if circumstances still prevent the student from completing the course. In such cases, the student is responsible for obtaining the approval of the professor who must notify the Registrar in writing of his/her approval prior to the end of the initial six (6) week period. With regard to the extension of an incomplete grade, **the required course work must be completed by the student prior to the beginning of the final examination period of the semester immediately following the one in which the incomplete was originally issued.** The instructor will then have five working days within which to submit a final grade to the Registrar.

Change of Grade: Once a grade has been posted to a student's transcript that grade may be changed if, and only if, an error has been made in the calculation or transcription of the original grade. Under no circumstances will a change in grade for a student be allowed because of the submission of additional work after the course has ended. No grade change may be made after the conclusion of the semester following the semester in which the grade was originally submitted.

Transcripts

Official transcripts of coursework taken at Worcester State may be obtained by eligible students from the Office of the Registrar with the completion of a form available for that purpose, or by writing the request. Students may also download the transcript request form from our Web site (www.worcester.edu/transcriptrequest), and forward the completed copy to the Registrar's Office. Requests must include name while attending, current name if different, Social Security number and/or student ID number, last date of attendance and whether or not the student was officially accepted into a program. Transcripts are $5 per copy. Payment must accompany the request in the form of a check made payable to Worcester State. Transcripts cannot be ordered by telephone or fax.

International Programs

International Students

The International Programs Office at Worcester State bears dual responsibilities advocating internationalization on our campus as well as promoting academic and cultural exchanges within the global community.

The Office serves Worcester State students in implementing their academic goals, specifically in international education. Students are encouraged to pursue study abroad experience during their academic studies at Worcester State. Worcester State has study abroad agreements that allow study abroad in virtually every part of the world. Worcester State also maintains exchange agreements with several higher education institutions overseas. The Office of International Programs collaborates with campus academic departments to develop in-house study abroad programs. Led by our own faculty, in-house programs allow students to interact with their faculty more closely while being educated abroad. The student who has completed their sophomore year and earned an overall GPA of 2.5 or above are invited to contact the study abroad advisor to explore program options. *Students with sophomore standing and a GPA of 3.0 will be eligible for study abroad. Interested students may study abroad for one summer, one semester or an entire academic

year at our partner institutions overseas. Eligible students should contact the study abroad advisor at 508-929-8104 or email study.abroad@worcester.edu.

With respect to international students and visiting persons, Worcester State is authorized under federal law to issue I-20 and DS 2019 forms for academic study or teaching at our campus. All international students must have a valid student visa to travel to the U.S. and an approval of student status to conduct required full-time study. Under the policy of Department of Homeland Security, all international students must report to the Office of International Programs after their initial entry to the U.S. International students should contact the office by calling 508-929-8747 or email schao@worcester.edu.

Intensive English Language Institute

Students wishing to study English and to prepare for the TOEFL can enroll in the 20-hour-a-week, semester-long program for a fee. An 8-week summer program is also offered. Upon acceptance, an I-20 will be issued for the period of one year. This is a non-credit program, and the TOEFL is administered at Worcester State at the end of each semester. The score may be used for admission to Worcester State only. Brochures and further information are available in the IELI office in the Administration Building, 4th floor.

Standards of Progress

Matriculated students (students admitted to Worcester State and pursuing a formal course of study leading to the bachelor's degree, second major, certificate or professional certification) are expected to make satisfactory and steady progress toward completion of their programs.

Opportunities are available for student advisement, both within the departments and from the Academic Success Center. However, each student is solely responsible for selecting courses, which satisfy departmental requirements for a major, as well as the general requirements for graduation as described in this catalog. Students are responsible for familiarizing themselves with this information. Exemption from, or exception to, any published requirement is valid only when approved in writing by the Vice President for Academic Affairs or Associate Vice President for Academic Affairs and confirmed by the Registrar.

Attendance

All students are expected to attend and participate in all class meetings and laboratory sessions. In the event that illness or some other emergency prevents a student from attending class, the student should contact the instructor directly. Since attendance requirements differ according to the specific academic goals of each course, students should carefully check the attendance policy on the course syllabus. If there is anticipated prolonged absence, the Associate Vice President for Academic Affairs (Administration Building, Room 361) should be contacted.

Worcester State abides by Chapter 375 of the Commonwealth of Massachusetts, An Act Excusing the Absence of Students for Their Religious Beliefs. Section 2B of this law states: "Any student in an educational or vocational training institution other than a religious or denominational educational or vocational training institution, who is unable, because of his religious beliefs, to attend classes or to participate in any examination, study, or work requirement on a particular day shall be excused from any such examination, study or work requirement, and shall be provided with an opportunity to make up such examination, study, or work requirement which he may have missed because of such absence on any particular day; provided, however, that such makeup examination or work shall not create an unreasonable burden upon such school. No fees of any kind shall be charged by the

institution for making available to the said student such opportunity. No adverse or prejudicial effects shall result to any student because of his availing himself of the provisions of this section."

Academic Standing: For degree-seeking students, class membership is based upon the number of credit hours completed. Class membership determines priority for registration and participation in class events.

Class	Credit Hours Completed
First Year	0-29
Sophomore	30-59
Junior	60-89
Senior	90-120

Good Standing: To maintain good standing at Worcester State, matriculated students must meet the minimum standards specified below.

College Credits*	Cumulative GPA
1-29	1.50
30-59	1.75
60 and over	2.00

*College credits include all credits **attempted** at Worcester State **plus all credits accepted in transfer.** Students are reminded that only grades earned at Worcester State are used in determining their GPA.

Warning Status: Students will not be placed on probation status until they have attempted 24 semester hours; however, students may be placed on a **warning status** if they fail to maintain the minimum standard after attempting 12 semester hours. Students on warning status may enroll in no more than 16 semester hours. In consultation with an academic advisor, each such student will develop an academic plan/registration contract that will include such conditions as repeating failed courses, regularly scheduled advising appointments, attending workshops offered through the Academic Success Center, and recommended use of the writing center, math lab, and tutoring services.

Probation and Dismissal: Students who fail to meet and/or maintain the minimum cumulative GPA required for good standing are placed on academic probation and are subject to the following restrictions: 1) they may not participate in intercollegiate athletics; and 2) they may not register for more than 12 semester hours of credit per semester; and 3) they may not serve on any standing and ad hoc governance committees of Worcester State.

Failure to improve the GPA and regain good standing after two regular academic semesters (Fall and Spring) will result in academic dismissal and separation from Worcester State. Students dismissed from Worcester State for academic deficiency may not register for or attend classes at Worcester State until 12 months have elapsed. Readmitted students must attain a minimum GPA of 2.0 for each semester following their return. Failure to maintain a 2.0 semester GPA will result in a second separation from Worcester State not subject to appeal. See next section regarding withdrawal/leave of absence.

Appeal of Dismissal: Students may appeal for reinstatement to continue for a third semester on probation. Appeals must be made in writing to the Chair of the Academic Progress Review Board and submitted to the Registrar within five (5) days of notification. The Academic Progress Review Board will review the written appeals. The decision of the Review Board is final.

Withdrawal from Worcester State/Leave of Absence

Matriculated students who fail to take a course during a calendar year will be administratively withdrawn from Worcester State. Students who wish to permanently withdraw from Worcester State or take a temporary leave of absence must complete appropriate forms in the Academic Success Center. If the withdrawal or leave of absence is filed prior to the last day to withdraw from courses for the term, "W" will be recorded on the student's record. Students who file for leave of absence or withdrawal after the last day to withdraw from courses for the term may petition if they feel circumstances warrant the recording of "W" for all courses enrolled for that term. Normally, a leave of absence is for one semester; however, a student may have up to one year to return to Worcester State. Failure to return at the specified time will result in an administrative withdrawal from Worcester State.

Students who receive any form of Financial Aid or Veterans Educational benefits should consult with the respective office PRIOR to dropping or withdrawing from a course. Reducing hour credit load may adversely affect eligibility to receive Financial Aid, Veterans Educational benefits. In addition, most private insurance companies require that students be full-time (12 credits or more) to be eligible for coverage.

Reinstatement after Withdrawal/Non-continuous Attendance/Dismissal

Students reactivate their undergraduate, matriculation status through the Registrar's Office. It is the students' responsibility to supply and update the following documents if they are not on file:

- final high school transcript
- completed and notarized proof of residency form
- official transcript of all courses completed at each post-secondary institution attended (excluding Worcester State)

When the file is complete, the student will meet with an advisor and develop a plan for academic persistence and success. If applicable, an updated evaluation of transfer credits will be done at this time. In the case of Nursing, Occupational Therapy, and Education majors, an interview with the academic department will be necessary to determine reinstatement possibility in these majors.

Students readmitted after dismissal must attain a minimum GPA of 2.0 for each semester following their return. Failure to maintain a 2.0 semester GPA will result in a second separation from Worcester State not subject to appeal.

All reinstated students follow the degree, program, and graduation requirements from the catalog in effect at the time of their reactivation. Through appropriate advising, a plan for success outlining the maximum credits applicable will be developed prior to the semester of re-matriculation.

Academic Reprieve Policy

The Academic Reprieve Policy applies to former Worcester State students returning to complete baccalaureate degree programs a minimum of three academic years after their last completed semester at Worcester State. This policy is designed to facilitate program completion for students whose previous academic records were so poor as to put them in jeopardy of academic probation or dismissal immediately upon readmission. A student may exercise this academic reprieve option only once.

A student meeting criteria for eligibility must file a petition form, available in the Office of the Registrar, requesting reprieve of eligible course work at Worcester State, either

at the time of readmission or before the close of the first semester of re-enrollment. A maximum of 60 credits may be applied toward graduation from the student's previous enrollment at Worcester State. In order to be applied, those courses must have received a passing grade. Credit for courses in the student's major is contingent upon approval by the Department Chair. None of the grades associated with courses given credit under the academic reprieve policy will be calculated in the student's GPA; however, all course work will be recorded on the transcript. A student selecting the reprieve option will be required to meet degree requirements of the catalog in effect on the date of the student's application for readmission. Those electing the reprieve option may qualify for honors at graduation upon the completion of a minimum of 60 graded credits. All approved academic reprieve students should check with the Financial Aid Office to see whether their reprieve will be recognized for financial aid purposes.

Undergraduate Appeal Procedure

Prior to invoking the use of the undergraduate appeal procedure, individuals should exhaust all informal means available to resolve questions concerning specific issues related to their courses.

The appeal procedure may not be used to challenge a grade which results from a faculty member exercising usual and customary professional judgment in the evaluation of student work.

Step 1

When an issue arises in which the student believes he/she has been treated unfairly, the student shall request in writing a meeting with the instructor. In the case of an end-of-semester grade, the student shall request such a meeting no later than ten working days after the beginning of the next semester. The instructor shall arrange to meet with the student within ten working days of the receipt of the request.

Step 2

If the matter is not resolved to the satisfaction of the student at Step 1, then, within ten working days of the meeting in Step 1, the student shall file a written request to review the matter with the appropriate Department Chair.

Step 3

If, within ten working days of the receipt of the request in Step 2, the Department Chair is unable to resolve the matter to the satisfaction of all parties, then either party may, within ten working days, file a written request to review the matter with the Associate Vice President for Academic Affairs. In the case of continuing education courses or graduate courses, the appeal at Step 3 goes to the Dean of Graduate and Continuing Education.

Step 4

If, within ten working days of the receipt of the request in Step 3, the Associate Vice President for Academic Affairs or the Dean of Graduate and Continuing Education is unable to resolve the matter to the satisfaction of all parties, then either party may, within ten working days, file a written request to review the matter with the Vice President for Academic Affairs.

Step 5

Within ten working days of the receipt of the request in Step 4, the Vice President for Academic Affairs shall inform the student, faculty member, Department Chair, and Associate Vice President for Academic Affairs of the results of his review.

The appeal process ends at this point.

Enhanced Learning Opportunities

Accelerated Pharmacy Program with Massachusetts College of Pharmacy and Health Science:

Worcester State and Massachusetts College of Pharmacy and Health Science have a formal affiliation agreement that admits students into an articulated program that begins with three years at Worcester State in one of four science tracks: Biology, Biotechnology, Chemistry or Natural Science, and concludes with the three-year accelerated Doctor of Pharmacy program on the College's Worcester or Manchester (NH) campus. After successfully completing the first year of required coursework in the PharmD program at Massachusetts College of Pharmacy and Health Science, students will earn a Bachelor of Science degree from Worcester State. The first three years at Worcester State offer a blend of liberal arts and sciences that meet both the Massachusetts College of Pharmacy and Health Science general education curriculum requirements and the specific science track requirements at Worcester State. Massachusetts College of Pharmacy and Health Science provides the coursework needed for the student to earn the Bachelor of Science degree from Worcester State at the end of the first year of professional study, as well as the professional education required to earn the Doctor of Pharmacy degree at the end of three years at Massachusetts College of Pharmacy and Health Science.

MCPHS shall accept up to ten (10) qualified WORCESTER STATE students each year into the first year of the Pharmacy Program. If more than 10 students meet the established requirements and wish to transfer under the terms of this Agreement, the 10 students determined by the MCPHS Worcester/Manchester Pharmacy Admissions Committees to be the best qualified will be assured transfer admission, with the remaining students accepted on a space available basis.

Students who qualify (at the end of three years at Worcester State) for the Accelerated Pharmacy Program with Massachusetts College of Pharmacy and Health Science must:

- have at least a 3.5 cumulative grade point average (on a scale of 4.0) if they entered Worcester State after fall 2008
- have at least a 3.2 cumulative grade point average (on a scale of 4.0) if they entered Worcester State in fall 2008
- be full-time students at Worcester State for the three pre-pharmacy years and follow one of the approved curricula
- no grades below C (not C-)
- no course repeats
- all courses completed at Worcester State
- TOEFL score of at least 213 if English is a second language

****Students taking a reduced load for two or more semesters will be in violation of the terms of the Agreement and may lose their right to enroll in the PharmD program.

****Students who transfer into Worcester State from another college are not eligible for this program but can apply to MCPHS via the traditional application process.

Students applying to the MCPHS Accelerated Pharmacy Program must:

- declare by November 1 of their third year at Worcester State their intent to transfer to MCPHS as a first-year Pharmacy Program student the subsequent Fall term.
- complete an application to MCPHS via the Pharm CAS System by November 1.
- notify both the Worcester State pre-pharmacy advisor and the MCPHS Office of Admission on the Worcester campus by November 1 of their third year at Worcester State. Students must indicate their first and second choice of campus (Worcester or Manchester).
- send the completed application to the MCPHS Office of Admission on the Worcester campus by February 1 of their third year at Worcester State.
- complete a successful pre-admission interview, conducted by MCPHS at the campus to which the student intends to transfer.

American Antiquarian Society Seminar: Each year the American Antiquarian Society and five Worcester Colleges—Assumption College, Clark University, College of the Holy Cross, Worcester Polytechnic Institute and Worcester State—sponsor a research seminar at the Society library. The seminar is conducted by a scholar familiar with the Society's extensive early American History collection, and the seminar topic is related to his or her field of research. Normally two students are chosen from each of the five colleges to participate. The seminar topic and research methods combine several disciplines, and students from a wide variety of majors have participated in this unusual undergraduate opportunity. Further information is available from the Department of History and Political Science.

American Chemical Society: Students may challenge Chemistry for the Allied Health Professions by contacting the Chemistry Department, New York Board of Regents. In some cases, credit can be awarded for these examinations.

Colleges of Worcester Consortium, Inc.: Thirteen Central Massachusetts colleges, along with a number of Worcester area organizations, comprise the Worcester Consortium for Higher Education. In addition to cultural activities, interdisciplinary programs, and other opportunities, the Consortium provides a cross-registration service whereby full-time day students of member colleges may register at no additional cost for one course per semester at another campus. A Consortium shuttle bus provides transportation among campuses throughout the day.

Members of the Consortium, in addition to Worcester State, are Anna Maria College, Assumption College, Atlantic Union College, Becker College, Clark University, College of the Holy Cross, Mass College of Pharmacy and Health Science, Nichols College, Quinsigamond Community College, Tufts University, University of Massachusetts Medical School, and Worcester Polytechnic Institute. Among other organizations participating with the Consortium to enrich local college curricula are the American Antiquarian Society, Worcester Craft Center, The International Center, Old Sturbridge Village, radio station WICN, Worcester Art Museum, Worcester Foundation for Experimental Biology, Worcester Historical Society, Worcester Horticultural Society, and New England Science Center.

Cross registration opportunities (at no additional cost) exist only for our matriculated under graduate students taking day classes at one for the member Colleges during the Fall and Spring semesters. Students must be in good academic standing to take advantage of the one course per semester cross-registration option. Student eligibility and course applicability is determined by the Registrar's Office. Further information is posted on the Consortium website — www.cowc.org.

College Academic Program Sharing (CAPS): A student enrolled at any of the nine Massachusetts State Colleges may enroll for up to 30 credits at any other state college without going through formal registration procedures. Credits are automatically transferred to the student's home institution, and the student pays no additional tuition or fees. To take part in the program, degree-seeking students must have attained sophomore status and be in good academic standing at Worcester State. For further information consult the Registrar.

College Level Examination Program (CLEP): These standardized examinations offered on campus through the Educational Testing Service confer college credit in two categories—general examinations, which include English, humanities, mathematics, social sciences, and natural sciences; and examinations in specific subjects. CLEP examinations allow students to earn college credit by demonstrating their mastery of college-level material in introductory subjects. A maximum of 60 credits earned through the CLEP process will be accepted towards a degree at Worcester State. Additional information and applications are available through the Counseling and Career Services Center.

Credit by Examination: In addition to the Advanced Placement examinations administered by the College Entrance Examination Board through high schools, other opportunities to challenge subject areas for credit are available.

Department Challenge: When appropriate and with the sanction of the faculty advisor, students may request and complete a department-developed examination to translate competencies into credit. A limited number of departments offer this as an option, so consult the appropriate department chair. However, in most cases it is recommended that students explore the CLEP option.

Internships and Professional Experiences: Matriculated students in good academic standing are eligible for Internship placement if they meet departmental requirements for such placement. No more than 12 academic credits may be applied toward graduation. An internship is a form of experiential learning that permits a Worcester State matriculated student to convert theory into action. An internship may be undertaken with or without the expectation of academic credit. If credit is to be granted, however, the internship must be monitored and evaluated by the appropriate Worcester State department and a grade awarded at its completion. The internship can be constructed according to any of a number of models including professional apprenticeships, work experience, field research, career exploration, socio-political action and service learning. Because students must be actively involved in the development of an internship placement—by developing a resume, preparing necessary correspondence, or being interviewed—they should contact the faculty sponsor in the semester prior to the proposed internship. The internship contract sets forth the responsibilities of each party so that each understands his or her specific role in the educational field experience. Each program is designed to accommodate and articulate the personal goals of the student, the academic goals of the department, and the needs of the participating off-campus organization. Information about available internships is regularly relayed to, and publicized in, appropriate academic departments. The following conditions apply to all internships:

- no more than 12 units of internship credit may count toward a degree
- students undertaking internships must be in good academic standing
- only juniors and seniors may undertake internships
- a copy of the student's internship contract with the sponsoring department must be filed with the Registrar's office.
- Students are responsible for providing their own transportation for off-campus learning experiences.

National League for Nursing (NLN) Examinations: For RNs who graduated from a diploma program, up to 21 credits may be transferred after taking and passing the NLN Profile II Mobility Exams.

New England Regional Student Program: Worcester State participates in a regional cooperative program administered by the New England Department of Higher Education. The New England Regional Student Program offers qualified residents the benefits of in-state tuition plus 50% in certain programs at any New England state university, college, two-year college, or technical institute. The purpose of the program is to expand higher educational opportunities for New England residents by making available, on an equal basis, those programs not commonly offered at every institution. Information about the program can be obtained from the Admissions Office, from any guidance counselor, or from the **New England Department of Higher Education, 45 Temple Place, Boston, MA 02111.**

Off-Campus Courses: Matriculated students may enroll in off-campus courses at regionally accredited institutions in academic disciplines that are compatible with the Worcester State curriculum. To assure applicability and transferability, matriculated students must have approval in writing from their faculty advisor and the Registrar before enrolling in courses at other accredited institutions. Copies of course descriptions from college catalogs or other publications for each course must be attached. Forms are available at the Registrar's Office (Administration Building, Room 107).

Pre-Law Program: A program of preparation for law school is available through the Department of History and Political Science.

Pre-Medical, Pre-Dental, Pre-Veterinary and Pre-Pharmacy Advisory Program: Worcester State offers an advisory program for students interested in preparing for medical, dental, veterinary or pharmacy studies. Students interested in medicine or dentistry may pursue study in any of the academic majors of Worcester State. It is the obligation of the students to check with the professional school(s) to which they intend to apply for exact requirements. Nearly all medical and dental schools require one year each of the following laboratory courses: General Chemistry, Organic Chemistry, Biology and Physics. In addition, many schools require two years of a modern foreign language, one year of English (including composition), and Mathematics through Calculus. Regardless of major, students are advised to select CH 120 and CH 121, General Chemistry I and II, and either BI 140 and BI 141, or PY 221 and PY 222, or PY 241 and PY 242 in their first year.

Students interested in medicine, dentistry, veterinary medicine, optometry, podiatry or osteopathy should consult both the major advisor and the Chair of the Pre-Medical and Pre-Dental Advisory Committee as soon as possible following matriculation. Students are advised to complete their science requirements before the end of their junior year and to take the national pre-professional exam (e.g., MCAT, DAT) during the Spring semester of their junior year. During the junior year, students must arrange an interview with the Pre-Medical and Pre-Dental Advisory Committee. The current chair of the Pre-Medical and Pre-Dental Advisory Committee is: Dr. Alan Cooper, Chemistry.

Summer Programs: Worcester State offers a variety of undergraduate and graduate courses during the summer months. Two six-week sessions, the first beginning in early June and the second beginning in early July, provide intensive enrichment opportunities for students working toward completion of degree requirements or upgrading and enhancing professional skills. The summer schedule is usually available in April. Course listing is on website (www.worcester.edu/summer).

The Washington Center for Internship and Academic Seminars

Worcester State participates in this internship program that combines experience in public, private, or non-profit sectors in Washington, D.C. with academic learning. The internship provides a unique opportunity to explore career paths while sampling the intellectual and cultural diversity of our nation's capital. This internship must be taken for credit so it is imperative that a student meets with the faculty sponsor early in the semester prior to the proposed participation.

A student's financial aid may be applied toward program costs. In addition, significant scholarship monies are available through The Washington Center and the Massachusetts Department of Higher Education for students with a minimum GPA of 3.0 and who are residents of Massachusetts. Tuition and fees are also waived for the semester for students who meet both the residency and GPA criteria. It should be noted that scholarship/financial aid monies are awarded based on the most recent policies put forth by OSFA and the Massachusetts Department of Higher Education and are subject to change.

Each semester The Washington Center Regional Recruiter visits the campus to speak with students about the internship program. These visits are coordinated through Career Services. Interested students can obtain application forms from the Career Services office, located in the Student Center, third floor, or visit the program's website at www.twc.edu for more information. The faculty sponsor and Career Services Campus Liaison's signatures are required before the application can be submitted.

Workplace ESL (English as a Second Language)

For a company or organization to function well, its employees must be able to communicate effectively. At Worcester State, our Workplace ESL Programs can be tailored to the needs of your organization. Most employees are eager and pleased to be able to increase their English language skills and thus become more valuable in the workplace. Our Workplace ESL Programs emphasize the basic skills of listening speaking, reading and writing, with specialization in vocabulary and American expressions (slang and idioms) used everyday. There is often a special need for employees to learn vocabulary used in your workplace, and we work with management to identify and offer that specific terminology. Education in English as a Second Language gives employees a sense of empowerment and a sense that they belong to their new culture. This includes a sense of belonging to the culture of their workplace. These employees often become more aware of the entire corporate atmosphere, and identify more strongly with their workplace, getting more involved and more comfortable being part of a team, giving suggestions and being concerned with safety issues. We also offer a program for managers to learn conversational Spanish that will help them to communicate more effectively with new employees. For more details, contact the Center for Business and Industry 508-929-8126.

Reserve Officer Training Corps (ROTC)

Air Force

Worcester State students have the opportunity to participate in Air Force ROTC through the AFROTC Detachment at Worcester Polytechnic Institute. The Air Force ROTC program is voluntary and open to all students who seek the challenge of being an officer in the United States Air Force upon graduation from college.

The Air Force ROTC academic program includes a one-hour, non-credit course both semesters of the first year; a one-hour, one credit course both semesters of the sophomore year; and three-hour, three credit courses each semester of the junior and senior years. The courses cover Air Force organization and history the first year and sophomore year,

and management, leadership, American defense policy, regional studies, and military law during the junior and senior years. Additionally, AFROTC cadets participate in a one and one-half hour military training period each week.

All AFROTC cadets also attend Air Force ROTC field training during the summer between their sophomore and junior years. Cadets are paid while at field training and will receive travel pay to and from the Air Force base hosting field training. Students participating in the first two years of AFROTC will attend a four-week field training session, while students entering AFROTC during their sophomore year will attend a six week training program.

By participating in AFROTC students can compete for scholarships ranging from two years to three years in duration. These scholarships cover tuition, most fees, and textbooks. A monthly tax-free subsistence allowance of $100 is paid to all scholarship students, and to all non-scholarship cadets in the last two years of the Air Force ROTC program.

To participate in Air Force ROTC students must be United States citizens (or naturalized by the end of their sophomore year), of good moral character, and in sound physical condition. Students interested in Air Force ROTC should write to the Professor of Aerospace Studies, AFROTC Detachment 340, Worcester Polytechnic Institute, 100 Institute Road, Worcester, MA 01609-2280, or call 508-831-5747 for further details and the latest information on scholarship opportunities.

Army

The Army Reserve Officers' Training Corps (ROTC), is offered by Worcester Polytechnic Institute and is available to all Worcester State students. American citizens who are physically qualified and who satisfactorily complete the entire four-year program will be commissioned in the United States Army. Graduates serve as second lieutenants in the Active Army or the reserve components. Delayed entry on active service for the purpose of graduate school is available. Military science is designed to complement other instruction offered by Worcester State. Emphasis throughout is on the development of individual leadership abilities and preparation of the student for future important leadership roles in the Army. There are two variations of ROTC available to the student who desires to participate: a four year program, in which students participate in required military science courses and activities for four academic years. Attendance at a six-week advanced training camp is required between the third and fourth year.

The two-year ROTC program is intended for students in their second year of college who want to enroll in ROTC in their junior year. It begins with a six-week basic summer training camp, with pay, between the sophomore and junior years. Upon successful completion of basic camp, the student participates in the third year of ROTC and attends the advanced camp during the next summer. As an alternative, an enlisted member of the Army National Guard or Army Reserve who has completed basic training can qualify for the two-year ROTC Simultaneous Membership Program (SMP).

All students enrolled in the last two years of the program receive a tax-free cash stipend of $100 each month in school. Two- and three-year Army ROTC scholarships are available for students who wish to apply. The scholarship is based on the achievements of the applicants, not the financial status of their families. The ROTC scholarship covers tuition and most required fees, paid directly to the college. It also pays directly to the student $450 per year for books and a $100 monthly cash stipend, each month in school. Both are tax free. Members of Army Reserve and National Guard may participate in the ROTC/SMP as college juniors, receiving a reserve officer commission upon successful completion of the military science requirements. SMP cadets remain members of their unit and earn E-5 drill pay in addition to the tax-free stipend of $100 per month through ROTC. Additionally, Massachusetts National Guard ROTC/SMP members receive free tuition at state schools.

Students interested in Army ROTC should contact the Professor of Military Science, Military Science Department, Worcester Polytechnic Institute, 100 Institute Road, Worcester, MA 01609, or call 508-831-5268. Offices are located in Room 28A, Harrington Auditorium.

Navy

Programs leading to a commission as an officer in the United States Navy or Marine Corps are available to all qualified Worcester State male and female students through cross-enrollment in the Naval Reserve Officers Training Corps Unit at the College of the Holy Cross. Students can participate as Scholarship or College Program (non-scholarship) students in either a four-year or two-year Naval ROTC program. The basic qualifications for enrollment in the NROTC Program are United States citizenship, good moral character, and sound physical condition.

High school students, in the Fall of their senior year, can apply through the national competition for three- and four-year Naval ROTC Scholarships. If selected, they receive full tuition, payment of most fees, and a $150 per month tax-free stipend. Along with their college degree requirements, Naval ROTC students are required to complete one Naval Science course each semester and also participate in one two-hour weekly unit drill period. Additionally, scholarship NROTC students participate in summer training cruises after their first year, sophomore year, and junior year. The summer cruises are four to six weeks in length, with pay and allowances, and afford an opportunity for practical experience and travel. Upon successful completion of the NROTC program, graduates are commissioned ensigns in the Navy or second lieutenants in the Marine Corps and are required to serve at least four years on active duty.

First-year and sophomore students can apply for the two-year Naval ROTC Scholarship Program during their first two years in college. If selected, they receive full tuition, payment of most fees, and a $150 per month tax-free stipend. They attend a six week indoctrination course during the summer preceding their junior year at the Naval Science Institute at Newport, Rhode Island. Along with their remaining college degree requirements, they are required to complete one Naval Science course each semester and also participate in one two-hour weekly unit drill period during their junior and senior years. They are required to serve at least four years on active duty after commissioning.

Students can also participate as College Program (non-scholarship) students in either the four-year or two-year Naval ROTC Program. Students apply directly to the Professor of Naval Science at the College of the Holy Cross for enrollment. The program provides military uniforms and during the junior and senior years a subsistence allowance of $150 per month. College Program students are required to complete one Naval Science course each semester and also participate in one two-hour weekly unit drill period. They also participate in one summer training cruise preceding their senior year. Once enrolled in the NROTC Program, College Program students are eligible to apply for scholarships based on their academic record and performance in the Naval ROTC Unit. Scholarships of one, two, and three years are available.

Upon successful completion of the program, College Program students are commissioned in the Naval or Marine Corps Reserve and are required to serve at least three years on active duty after commissioning. For additional information about the Naval ROTC Program, contact the Professor of Naval Science, Naval ROTC Unit, College of the Holy Cross, Worcester, MA 01610-2389; 508-793-2434.

Services for Students

Student Services is a collaboration of varied offices designed to enhance each student's experience at Worcester State. We offer career counseling, provide assistance for students with physical and/or learning disabilities, and present programs for students who may need additional academic preparation for college success.

Multicultural Affairs

Alternatives for Individual Development (A.I.D)

The Alternatives for Individual Development Program (A.I.D.) is an alternative admissions program at Worcester State which provides educational assistance to students.

The primary focus is the first year, however, the program requires a minimum participation of two academic semesters, designed by the program staff and based on individual assessment. Other services will be provided to students throughout their undergraduate experience, including academic assistance, individualized or group tutoring, assistance with financial problems and cultural enrichment.

The program actively recruits students who show motivation and desire to succeed in higher education. Included in this category are ALANA, low-income and first generation students.

In order to be eligible, students must be incoming first-year students, meet minimal admissions requirements, be a Massachusetts resident and a U.S. citizen and/or permanent legal resident.

When completing your Worcester State application, answer "yes" to "I wish to be considered for admission to the Alternatives for Individual Development Program." Letters of recommendation from guidance counselors and high school teachers are needed to complete the application file. In some cases an interview may be required.

Upward Bound

The Upward Bound Program at Worcester State is designed to encourage eligible high school students to persist in school through graduation and to seek a post-secondary education.

The Program actively recruits students who show motivation and desire to succeed and who are college bound. Included in these categories are: first generation, ALANA and low income students.

Services include: college visits, workshops and seminars in college admissions and financial aid assistance, career counseling, individualized or group tutoring and cultural enrichment activities.

The Program has two main components—the Saturday component and the summer residential academy.

Athletics and Recreation

The Athletics and Wellness office is an integral part of Worcester State's efforts to provide a high quality, affordable education and supportive environment that promotes the total development of our students. The staff provides students with the opportunities to grow and learn through intercollegiate varsity athletics, intramurals, and wellness programs. Participation in these activities fosters physical, mental, leadership and life skills development, while enhancing self-discipline and sportsmanship qualities.

In all of its programs, the Athletic and Wellness office is cognizant of its responsibilities as an educational support component Worcester State.

As a Division III member of the National Collegiate Athletic Association (NCAA), the Massachusetts State College Athletic Conference (MASCAC), the Eastern College Athletic Conference (ECAC), and the New England Football Conference (NEFC), Worcester State offers baseball, basketball, cheerleading, cross-country, field hockey, football, golf, ice hockey, soccer, softball, tennis, track and field, volleyball and women's lacrosse.

For those students interested in competing on a less formal level, Worcester offers an extensive intramural sports program. The program includes touch football, coed football, basketball, tennis, street hockey, softball, soccer, volleyball, and golf. Any student who wishes to participate in intramural sports, regardless of ability or past experience is urged to do so. For the recreational athlete, Worcester State also offers open gym time as well as a modern, well-equipped fitness center. Students may also find part-time employment through the intramural director as supervisors and officials.

Campus Ministry

Campus Ministry at Worcester State seeks to enable students, faculty and staff to grow spiritually in their faith journey as they work and study in the Worcester State setting. Through interfaith programs, suppers, counseling and fellowship opportunities, the Campus Minstry seeks to bring a religious dimension into the everyday life and conversation of the Worcester State community. The Campus Ministry House is located near Dowden Hall and is staffed by Catholic and Protestant chaplains and available clergy from various religious traditions.

Worcester State Bookstore

All required course materials for classes are available at the Worcester State Bookstore located in the Student Center. This full service bookstore offers new and used textbooks, as well as school supplies, specialty books and a wide variety of gifts and clothing imprinted with the Worcester State logo.

We stock many used copies of textbooks, but the supply is limited and they sell quickly. Shop early for the best selection of used books. To make the book selection process for classes easier, bring your class schedule. Textbooks can be returned for a full refund within 5 days of the start the semester and must be accompanied by a receipt. Textbooks can also be purchased online at www.efollett.com.

The Bookstore can also buyback many of your textbooks at the end of the semester. Bring your unwanted textbooks back to the Bookstore during finals and turn them into cash.

Bookstore hours are as follows:

Fall & Spring Semester Hours
9 a.m. — 5 p.m. Monday–Thursday
9 a.m. — 4 p.m. Friday

Summer Semester Hours
9 a.m. — 4 p.m. Monday–Friday
Hours subject to change.

Extended Hours
We are open extended hours at the beginning of each semester.
Please call 508-929-8591 or visit our website (www.wsc.bkstr.com) for details.

Worcester State Police Department

The Worcester State Police Department's main priority is to provide the safest and most secure environment possible for the students, faculty, staff and visitors that comprise the institution's community. We believe that safety is everyone's responsibility and encourage our students, faculty and staff to engage in community policing and to report any suspicious activity to Worcester State Police. Policing is provided 24 hours a day throughout the calendar year by a full-time staff of sixteen sworn officers and three residence hall security officers. Worcester State Police officers enforce the rules and regulations of Worcester State in conjunction with applicable state and federal laws. The department also provides crime prevention programs and seminars scheduled at intervals throughout the year as well as ad hoc programs when requested by any constituent of the Worcester State community. **The Worcester State Police and Parking Clerk's offices are located on the first floor of Wasylean Hall.**

Counseling Services

Counseling Office

The Counseling Office assists students in coping with personal issues that interfere with their academic and personal development and sense of well-being. Individual counseling is available to anyone seeking assistance. Specialized counseling is available for individuals who have experienced sexual maltreatment at any point in their life. Support groups (as needed) are also available during the academic year. The staff of the Counseling Office is also able to assist students with advising and other academic issues.

The Office provides services to undergraduate and graduate students and to Worcester State alumni, and is located on the third floor of the Student Center. To make a Counseling Center appointment, please call 508-929-8072.

Career Services

Career Services provides students with the opportunity to explore career fields and occupations and conduct self-assessment, link career planning to academic planning, obtain experience in a variety of professional areas, and make a successful transition from college to career or to further schooling. We have a wide variety of services and resources available. Please visit our website at **www.worcester.edu/careerservices,** or visit our office and the Career Resource Center on the third floor of the Student Center. Appointments with a Career Counselor are available year round to currently matriculated students and alumni. Please call us at 508-929-8072 to make an appointment or if you have any questions. We look forward to serving you.

Disability Services Office (DSO)

Worcester State and the Disability Services Office (DSO) are committed to providing services that will enable students who qualify under Section 504 of the Rehabilitation Act and the Americans with Disabilities Act (ADA) to participate fully in the activities of Worcester State. The DSO is the primary support system on campus for students with

disabilities. Services have been established to ensure that facilities, activities, and programs at Worcester State are accessible to all students. A learning specialist is available to students registered with the DSO.

Current and comprehensive documentation is required from all students who request services, and it must demonstrate that the student's disability substantially limits one or more major life activities. For specific documentation criteria, please visit the DSO website at www.worcester.edu/dso. Accommodations and services are individually determined based on the functional limitation(s) that are identified by the diagnostic evaluation and during the intake interview.

With appropriate documentation provided, students must schedule an intake appointment.

The intake appointment is mandatory to officially register with the DSO and subsequently receive reasonable accommodations. Once registered with the DSO, it is the responsibility of the student to request accommodations on a semester-to-semester basis.

Please contact us for more information. The DSO is located on the first floor of the Administration Building, Room 131. Telephone: 508-929-8733, fax: 508-929-8214, email: dso@worcester.edu, or web: www.worcester.edu/dso.

Health Services Office

The Health Services Office is located in the Gymnasium Building off the main foyer. During the academic year a full-time nurse practitioner, two part-time practitioners, and a part-time physician staff the office. Office hours are Monday, Tuesday and Thursday 8 a.m. to 8 p.m.; Wednesday 8 a.m. to 6 p.m.; and Friday 8 a.m. to 4 p.m. During the summer months when the Health Services Office is closed, emergencies are referred to Worcester State Police. Services include acute and routine medical care, health screenings, immunizations and specialty referral. Treatment is completely confidential. Students' health history forms remain on file in this office, health insurance brochures and claim forms are available.

Health Forms and Immunization

Each full-time undergraduate and graduate student, and all full and part-time students in health science programs involving patient contact (Nursing, Occupational Therapy, and Communication Sciences and Disorders) must present evidence of immunization in order to register for classes. Massachusetts law specifies the following immunizations: 1) two doses of measles, mumps and rubella vaccine given at least one month apart beginning at or after 12 months of age; 2) a booster dose of tetanus/diphtheria within the last ten years; 3) three doses of Hepatitis B vaccine; and 4) All newly enrolled full-time resident students must be immunized with the Meningococcal vaccine within the last 5 years or the student/parent/legal guardian may sign the Meningococcal Information and Waiver Form developed by the Massachusetts Department of Public Health. All international students must have proof of a negative mantoux test performed in the USA. In the case of positive test results evidence of a negative chest x-ray is required. Tetanus immunization is available at Student Health Services free of charge, for accepted students. Mantoux testing (PPD) is also available at Student Health Services for a minimal fee. A copy of an immunization record from a school in the Commonwealth indicating receipt of the required immunizations may be presented; or in the case of measles, mumps, rubella, or Hepatitis B, laboratory evidence of immunity. The law provides for medical and/or religious exemptions. Provision is also made to allow students to register on condition that the required immunizations are obtained within thirty days of registration.

Students must submit the Worcester State Report of Medical History form, completed by a physician, in order to register for classes. All resident students must have a complete Worcester State Health Form in order to move into the residence halls.

Health Insurance

The Commonwealth of Massachusetts requires that students must be covered by health insurance under their own policy or purchase the Worcester State health insurance plan. Health insurance is required for undergraduate students if they register for nine (9) or more semester hours of credit. Coverage for graduate students is required if they register for seven (7) or more semester hours of credit.

At the time of fall and spring registration, all students will be enrolled in and charged for the Worcester State Student Health Insurance Program. Students who do not wish to participate in Worcester State's plan must return the completed waiver request form **that is enclosed with their bill.** They may also waive the insurance online at www.universityhealthplans.com. Both the completed waiver form and proof of insurance coverage should be returned with payment of their bill to the Bursar's Office. Students who enroll only in summer session classes are not required to participate.

Lancer Dining Services

Worcester State Dining Services is managed by Chartwells, a Division of Compass Group North America. Chartwells is proud to present to you the "Profiles in Good Taste" at Worcester State. It's an unforgettable dining experience; passion and practicality; ingenuity and sensibility. Great food and exciting environments combined with our pride of service transform the ordinary into the unexpected.

Locations and Hours of Operation

There are five dining locations on campus The Lancer's Loft Café, The Food Court, LRC Café, Outtakes C-Store and Java Junction. To find out about hours of operations, menus, prices, specials and upcoming events go to www.dineoncampus.com/wsc.

Meal Plans

Chartwells offers a wide variety of meal plans to both resident students and commuters. Resident students can choose from the freedom plan, 14 meals, 10 meals, 7 meals and a 65 block plan for students with 90 credits or more. We also have a commuter dining dollar plan for all first-year students, sophomore and first-time transfer commuter students. All meal plans only last a semester. To find out more information about meal plans and see which plan is right for you please visit www.dineoncampus.com/wsc.

Residence Life and Housing Services

The mission of the Office of Residence Life and Housing is to assist students in their social and intellectual development as it relates to functioning effectively as members of the Worcester State community, the Commonwealth of Massachusetts and as citizens of the larger global community. Residence Life and Housing is committed to providing residents with an inclusive living and learning experience that is conducive to achieving their educational and interpersonal goals.

Students may choose to live in one of three residential facilities on campus:

Chandler Village accommodates 420 students. It is a unique living area with 63 apartments in 26 interconnected townhouses. The different apartments accommodate four to eleven people in single and double occupancy bedrooms. Each unit features newly furnished bedrooms, common living and kitchen areas. Chandler Village has undergone a renovation that includes sprinkler systems for all units. There are several units accessible to persons with disabilities.

Dowden Hall, accommodating 416 students, is a traditional residence hall overlooking the lower campus. Dowden Hall is a substance-free facility. It includes single, double and triple rooms with study and recreational lounges on each floor. Dowden Hall has undergone a renovation that includes a sprinkler system for the entire building, a fitness center in the basement, and a C-store on the first floor. Dowden Hall is accessible to persons with disabilities.

Wasylean Hall is a suite style building that accommodates 348 students. The suites are designed to house four and six people. Each unit contains a common living and kitchen area. There are multiple study and recreational lounges throughout the building. Wasylean Hall is also accessible to persons with disabilities. There is a Ritazza coffee shop, open to the campus community on the first floor. Also, there is the central mailroom for all resident students. Wasylean Hall is home to the Office of Residence Life and Housing and Worcester State Police.

See pages 73-75, Room and Board, for additional information.

Student Activities and Organizations

A variety of cultural, social and service activities complement classroom instruction at Worcester State including films, lectures, novelty acts, comedy, and live musical performances. Students are encouraged to participate in one or more of the student organizations: the Student Events Committee, WSCW radio, Dance Company, Yearbook, The Student Voice Newspaper, Worcester State Pride Alliance, Student Government Association, Third World Alliance, Campus Ambassadors, the Dance Team, the Environmental Advocacy Group, the Commuter Advisory Board, Lancervision TV, special interest groups, and honor societies, more than 25 in all.

There is an active Student Government Association with a President, Student Trustee, and a Student Senate comprised of elected representatives from each class. Annual campus events include Welcome Week, Family/Homecoming Weekend, Senior Capping, Winter Week, Commuter Appreciation Week, Spring Week, Multicultural Festival, and Fashion Show.

Veterans Information

The Registrar's Office provides general information of interest to veterans and dependents of veterans enrolled at Worcester State. Spouses and dependents of 100% disabled or deceased veterans wishing to inquire about possible veterans' benefits should contact this office.

Students who receive any form of Financial Aid or Veterans Educational benefits should consult with the respective office PRIOR to dropping or withdrawing from a course. Reducing hour credit load may adversely affect eligibility to receive Financial Aid, Veterans Educational benefits. In addition, most private insurance companies require that students be full-time (12 credits or more) to be eligible for coverage.

Discipline Information

Worcester State Switchboard: 508-929-8000 **Web Site: www.worcester.edu**

Discipline	Location Sponsoring Department	Phone Departmental Website	Fax
Art	Learning Resource Center (L132B) Visual Performing Arts	508-929-8145 www.worcester.edu/art	508-929-8166
Biology	Science & Tech Bldg (ST310) Biology	508-929-8569 www.worcester.edu/biology	508-929-8148
Biotechnology	Science & Tech Bldg (ST310) Biology	508-929-8569 www.worcester.edu/biotech	508-929-8148
Business Adm.	Sullivan Academic Center (S203) Business Administration & Economics	508-929-8091 www.worcester.edu/business	508-929-8048
Chemistry	Science & Tech Bldg (ST410) Chemistry	508-929-8583 www.worcester.edu/chemistry	508-929-8171
Communication	Learning Resource Center (L332B) Communication	508-929-8829 www.worcester.edu/communication	508-929-8170
CommSci Disorders	Science & Tech Bldg (ST 115L) Communication Sciences & Disorders	508-929-8055 www.worcester.edu/csd	508-929-8175
Computer Science	Science & Tech Bldg (ST110) Computer Science	508-929-8832 www.worcester.edu/cs	508-929-8156
Criminal Justice	Learning Resource Center (L120) Criminal Justice	508-929-8000 www.worcester.edu/academics/cj	
Economics	Sullivan Academic Center (S203) Business Administration & Economics	508-929-8091 www.worcester.edu/economics	508-929-8048
Education	Sullivan Academic Center (S226) Education	508-929-8671 www.worcester.edu/education	508-929-8164
English	Sullivan Academic Center (S303) English	508-929-8154 www.worcester.edu/english	508-929-8174
French	Sullivan Academic Center (S303) World Languages	508-929-8154 www.worcester.edu/french	508-929-8174
Geography	Science & Tech Bldg (ST410) Physical & Earth Sciences	508-929-8583 www.worcester.edu/geography	508-929-8171
Health	Science & Tech Bldg (ST110Q) Health Science	508-929-8832 www.worcester.edu/health	508-929-8176
History	Sullivan Academic Center (S327) History & Political Science	508-929-8162 www.worcester.edu/history	508-929-8155

Discipline	Location Sponsoring Dept	Phone Departmental	Fax Website
Math	Sullivan Academic Center (S145) Mathematics	508-929-8912 www.worcester.edu/math	508-929-8197
Music	Learning Resource Center (L132B) Visual Performing Arts	508-929-8145 www.worcester.edu/music	508-929-8166
Natural Science	Science & Tech Bldg (ST410) Physical & Earth Sciences	508-929-8583 www.worcester.edu/natsci	508-929-8171
Nursing	Science & Tech Bldg (ST222) Nursing	508-929-8129 www.worcester.edu/nursing	508-929-8168
Occ. Therapy	Science & Tech Bldg (ST210B) Occupational Therapy	508-929-8624 www.worcester.edu/ot	508-929-8178
Philosophy	Sullivan Academic Center (S316) Philosophy	508-929-8162 www.worcester.edu/philosophy	508-929-8155
Physical Education	Science & Tech Bldg (ST110Q) Health Science	508-929-8832 www.worcester.edu/physed	508-929-8176
Physics	Science & Tech Bldg (ST410) Physical & Earth Science	508-929-8583 www.worcester.edu/physics	508-929-8171
Political Science	Sullivan Academic Center (S327) History & Political Science	508-929-8162 www.worcester.edu/history	508-929-8155
Psychology	Sullivan Academic Center (S241) Psychology	508-929-8159 www.worcester.edu/psychology	508-929-8172
Sociology	Sullivan Academic Center (S218) Sociology	508-929-8940 www.worcester.edu/sociology	508-929-8177
Spanish	Sullivan Academic Center (S303) World Languages	508-929-8154 www.worcester.edu/spanish	508-929-8174
Theatre	Learning Resource Center (L132B) Visual Performing Arts	508-929-8145 www.worcester.edu/theatre	508-929-8166
Urban Studies	Sullivan Academic Center (S129) Urban Studies	508-929-8940 www.worcester.edu/urbanstudies	508-929-8144
Visual/Perform Arts	Learning Resource Center (L132B) Visual Performing Arts	508-929-8145 www.worcester.edu/vpa	508-929-8166
World Languages	Sullivan Academic Center (S303) World Languages	508-929-8154 www.worcester.edu/worldlang	508-929-8174

Financial Information

The schedule of fees, tuition, methods of payment and refund policies are those in effect at the time of publication. They are subject to change without notice.

Tuition and Fees

Tuition and fee schedules are presented separately for undergraduate day programs, and evening undergraduate, graduate and summer programs. Certain students may be eligible for tuition waivers. Information about eligibility requirements can be found in the section on financial aid.

Undergraduate State-supported Programs

In addition to the non-refundable application fee of $40 for Commonwealth residents, $40 for nonresidents, students must upon acceptance pay a $75 non-refundable tuition deposit that will be credited towards tuition upon matriculation and an orientation fee for $75. Students are billed for all semester charges following completion of registration.

Reinstatement Policy

Payment in full is required by the due date specified on the student bill. Students whose accounts are not paid in full will be subject to cancellation of class enrollment. Reinstatement of course after the add/drop deadline requires the following procedure:

Within 2 weeks of cancellation:

1. Full payment including $75 reinstatement fee paid in Bursar's Office by certified check, money order, or credit card (MasterCard, Visa, Discover, American Express) to receive reinstatement form.
2. Reinstatement form needs to be signed by professors of cancelled courses thereby approving continued attendance in course.
3. Completed form returned to Bursar's Office by student within stated deadline.

Reinstatements requested between the stated deadline and the Academic Withdrawal Date each semester will need approval of the office of Academic Affairs along with the above requirements.

Reinstatements requested after the Academic Withdrawal Date will not be approved.

Payment may be made by check, money order, or credit card (MasterCard, Visa, Discover, American Express). If payment is made by check, the cancelled check will serve as the student's receipt. If a student remits payment with a check that is returned because of

insufficient funds, he or she must make any future payments to Worcester State in the form of a certified check, bank check, or money order. **A returned check fee of $15 will be imposed for each instance of a personal check in payment of any Worcester State charge that is returned not honored.** Students will incur all costs of collection if Worcester State must place their accounts with a collection agency and with the Commonwealth of Massachusetts for intercept of other State payments (tax refunds, etc.).

Monthly payment plans through external agencies are available for families who wish to avoid a large outlay of cash at the beginning of each semester. For further information, contact the Bursar's Office.

Tuition and fees are subject to change by vote of the Legislature, Department of Higher Education, or Board of Trustees.

Tuition Surcharge

Students enrolled in credits that result in course registration in excess of 118% of academic degree program requirements will be assessed a tuition surcharge. These students are required to pay a surcharge of $235 per credit hour in excess of the 118% limit. Transfer and continuing education credits are not included in total credit hour when determining who will be assessed the surcharge.

Worcester State
Affordability/Accessibility Disclosure Statement
2010 – 2011

Annual Department of Higher Education
Affordability/Accessibility Disclosure Statement

One of the benefits of being part of public higher education in Massachusetts is the substantial subsidy students receive to enroll in Worcester State. The annual cost information below is provided about the "average" student as a way of showing the amount of this subsidy.

Full Operating Cost (per full-time student)	$ 15,251
Less: State Operating Subsidy	(6,437)
= Tuition and Mandatory Fees (based on 30 credit hours)	8,814
Add: Average Residence Hall Fees	7,846
= Cost of Attendance Estimate	16,660
Annual Aid Available to Students	
Less: Average Annual Student Financial Aid	$ (8,182)
= Net Direct Price to Student	8,478

Note: Additionally, a Federal Tax credit of up to $1,500 a year is available to students and parents who meet eligible guidelines. With this benefit, the average annual cost is $1,791. For more information about tax credit eligibility, refer to Internal Revenue Service Instructions or ask your tax advisor.

Tuition and Fees – Fall 2010/2011

State Supported Courses	Annual	Per Semester	Per Cr. Hour
Cost for Full-Time In-State Student	***$7,155.00***	***$3,577.50***	***$ 298.12***
Tuition:			
MA Resident	**$ 970.00**	**$ 485.00**	**$ 40.42**
Non-Resident	7,050.00	3,525.00	293.75
N.E. Regional	1,455.00	727.50	60.63
Fees:			
General Fee	5,444.00	2,722.00	226.83
Student Activity Fee	68.00	34.00	2.83
Student Health Services Fee	85.00	42.50	3.54
Capital Improvement Fee	348.00	174.00	14.50
Technology Fee	240.00	120.00	10.00
Total Fees	**$6,185.00**	**$3,092.50**	**$ 257.70**
Residence Halls:			
Residence Hall Fee			
Chandler Village	$6,415.00	$3,207.50	
Dowden Hall	6,150.00	3,075.00	
Single (Additional charge)	400.00	200.00	
Wasylean Hall–single	7,487.00	3,743.50	
Wasylean Hall–double	7,051.00	3,525.50	
Residence Activity Fee	50.00	25.00	
Tech Access Fee	270.00	135.00	
Resident Parking Fee – upper lot & garage	175.00		
Board	2,800.00	1,400.00	
Board (Returning Students–minimum)	750.00	375.00	
Damage Deposit (1st Semester)		100.00	
Other:			
Health Insurance	$1,082.00	na	
Mass PIRG (Optional)	14.00	7.00	
Orientation Fee (New Students)	75.00	na	
Commuter Meal Plan	100.00	50.00	
Parking & Pedestrian Access fee	60.00	30.00	2.50
Non-State Supported Courses			
Tuition:			
Undergraduate			$130.00
Graduate			150.00
Fees:			
Administrative Fee			
Undergraduate			$ 85.00
Graduate			85.00
Technology Fee			10.00
Capital Improvement Fee			14.50
Parking & Pedestrian Access Fee			2.50
Other:			
Student Teaching		75.00 per course	
Lab Instruction		60.00 per course	
Art Model Fee		25.00 per course	
Applied Music Fee		260.00 per course	
Application Fee		40.00 per item	
Transcript Fee		5.00 per item	
Field Work Supervision			$ 15.00
Internship			15.00

Room and Board

Students admitted to Worcester State as resident students will be notified by the Director of Admissions. The information will be made available to the Residence Hall Staff and subsequent correspondence regarding residence hall assignments should be sent to the Director of Housing and Residence Life. First-year residents, including first-year transfer students, are not permitted to have cars on campus.

Housing is guaranteed ONLY for the specified academic year for which a student signs an occupancy agreement.

Students residing in campus housing are assessed a room fee and a food service fee each semester. All students residing on campus are required to purchase a food service plan for the academic year. Upon acceptance, each resident student must pay a $150 non-refundable room deposit and a $100 damage deposit:

For First-year and Transfer Students

1. A separate check for $150 (non-refundable) must be submitted to the Admissions Office. Payment of this deposit and the resident's receipt of an agreement signed by Worcester State will reserve a space for occupancy; half of the deposit is applied to the room charge for each semester.
2. The $100 damage deposit will be billed with room rent.

For Returning Residents

1. A $150 room deposit (non-refundable) along with a signed Occupancy Agreement Form must be submitted at the time of room selection for the following year; half of the deposit is applied to the room charge for each semester.

Food Service Plan: The food service plan is a board plan that permits the user to purchase a specific number of meals per week. Resident first-year students, sophomores, juniors, resident transfer students, and students residing in Dowden Hall are required to be on the full board plan for one academic year. This plan ($1,400 per semester) was designed to meet the needs of those students who plan to eat all their meals on campus. All other residents are required to purchase one of three block plans. The food service is available to meet with students to develop an appropriate food service plan. These plans are also available for commuter students.

Waiting List Procedure: First-year and transfer students may submit to the Admissions Office a $150 room deposit to be considered for room assignment. All other students may submit to the Residence Hall Office a $150 room deposit along with a signed Occupancy Agreement Form to be considered for room assignment. Students' names will be placed on a waiting list until a room becomes available; assignments will be made on a first come, first served basis.

Evening Undergraduate, Graduate, and Summer Programs

Tuition for undergraduate courses is currently $130 per semester hour of credit. Tuition for graduate courses is currently $150 per semester hour of credit. Tuition is payable at the time of registration and may be made by bank check, money order, personal check, or credit card (MasterCard, Visa or Discover); cash will not be accepted.

Fees are charged and payable when and as applicable:

General Fee	$ 85.00 — per credit
Capital Improvement Fee	14.50 — per credit
Parking & Pedestrian Access Fee	2.50 — per credit
Technical Access Fee	10.00 — per credit hour
Transcript	5.00 — per copy
Rush Transcript	10.00 — per copy
Laboratory Instruction	60.00 — per course
Nursing Clinical	320.00 — per course
Field Work Supervision/Internships/ Teacher Education Practicum	15.00 — per credit hour

Tuition and fee charges are subject to change by the Board of Trustees.

Course Cancellation/Processing of Tuition Refunds
Worcester State reserves the right to cancel any course for which there is insufficient enrollment. Students may transfer to another course by completing appropriate forms in the Registrar's Office. Processing of tuition refunds takes two to four weeks. Refunds are sent to the student at the address of record.

Student Health Insurance

Undergraduate degree seeking students enrolled in nine (9) or more credits per semester, and graduate degree seeking students enrolled in seven (7) or more credits per semester are required by State regulation to carry individual health insurance coverage. Students without such coverage will be billed a health insurance premium (currently $1,082.00 per year) for mandatory enrollment. **Students who already have appropriate coverage must complete a waiver of insurance at the time of payment (before the first day of classes) in order to waive the mandatory insurance premium. Any student not completing a waiver will be billed for insurance. This charge may not be adjusted, and is non-refundable after the add/drop period.**

General Worcester State Refund Policy

Applicability
This refund policy applies to all full- and part-time students enrolled in regularly scheduled classes at Worcester State other than those attending Worcester State for the first time (in the current academic year) and receiving financial aid. This policy applies to all tuition, room, board, fees, and other standard billed charges.

Withdrawal Requirements
All matriculated students, undergraduate and graduate, who wish to withdraw from Worcester State must do so in writing to the Registrar's Office on the prescribed form. The official date of withdrawal is that on which the completed form is received and stamped by the Registrar.

All withdrawals from courses — rather than withdrawal from Worcester State entirely — must be done in writing to the Registrar's Office, following the procedures established for that purpose.

Refund Policy
Refunds for withdrawal from Worcester State or withdrawal from courses will be made based on the following schedule if official notice of withdrawal has been received in writing and certified by the Registrar:

1. Prior to the first day of classes, or within the official add/drop period
   - Full refund of all tuitions and fees paid
2. After the official add/drop period
   - No refund of any tuitions or fees paid (unless registration is cancelled by Worcester State)

3. Room Charge (if applicable)
   - A full refund of room fees, less the $150 room reservation deposit will be made if intention to withdraw is received by the Director of Housing in writing at least 30 days prior to the beginning of the semester, **and Worcester State is able to fill the vacancy thus created.**
   - A pro-rata refund of room fees will be made if intention to withdraw is received by the Director of Housing in writing prior to November 1st (Fall semester) or April 1st (Spring semester), **and Worcester State is able to fill the vacancy thus created.**
   - The Housing Contract is for the term of one (1) full academic year, unless otherwise specified in writing. To terminate this agreement, for any reason other than terminating his/her status as a student of Worcester State, a student must petition for release with the Director of Residence Life. Such release is not guaranteed, **and Worcester State reserves the right to deny requests to terminate or cancel the agreement.**

Return of Title IV Funds

Refund Policy for Students Who Receive Federal Financial Aid

Applicability
This refund policy applies only to all full- and part-time students enrolled in regularly scheduled classes at Worcester State who are receiving Federal Title IV financial aid.

This policy is mandated by federal regulation.

Withdrawal Requirements
All matriculated students, undergraduate and graduate, who wish to withdraw from Worcester State must do so in writing to the Registrar's Office on the prescribed form. The official date of withdrawal for this refund policy is the date that the student begins the official withdrawal process or the date that the student officially notifies Worcester State of his or her intent to withdraw.

Refund Policy
Refund of Federal Title IV Financial Aid will be based on the date a student completely withdraws from Worcester State as described above. During the first 60% of the semester or summer term a student earns Title IV funds in direct proportion to the length of time he or she remained enrolled. A student who remains enrolled beyond the 60% point earns all aid for the semester or summer term.

The percentage of the semester or summer term that a student remains enrolled is derived by dividing the number of days a student remains in attendance by the number of days in a semester. Calendar days are used but breaks of at least five days are excluded from both the numerator and the denominator.

Unearned Federal Title IV aid other than Federal Work-Study must be repaid in the following order:

Federal Unsubsidized Stafford Loan
Federal Subsidized Stafford Loan
Federal Perkins Loan
Federal Parent Loan
Federal Pell Grant
Federal Supplemental Educational Opportunity Grant
Other Title IV programs

Students must repay 100% of unearned loans according to the terms of their Promissory Note. Only 50% of unearned grants must be repaid within 30 days of withdrawal from Worcester State.

Financial Aid

General Information

All students are encouraged to apply for financial aid to help them meet their educational costs. To receive financial assistance from the College, students must be enrolled in a degree-granting or federally approved certification program at Worcester State. Second degree students are eligible for Federal Loans and graduate students are eligible for Federal Loans and Federal Work Study funds. Applicants must also meet all Federal eligibility requirements and must be in good academic standing.

Financial aid is awarded to students with demonstrated financial need. Need is the difference between the total cost of college attendance (including reasonable costs for room, board, books, transportation, and other personal expenses) and the expected family contribution. Non-need based financial aid is available through several loan programs.

Complete information on financial aid programs, application procedures, and the award process is available in the Worcester State Financial Aid Guide on the Financial Aid Office website at www.worcester.edu/financialaid. Applicants to the College, current students, and their families should feel free to contact the Financial Aid Office at 508-929-8056.

Application Process

All students applying for financial aid must complete and submit a Free Application for Federal Student Aid (FAFSA) and a Worcester State Financial Aid Application. Priority for financial aid is given to students who comply with the deadlines listed below. Please note that funding from the Federal Pell Grant and Federal Stafford Loan programs is available to all late applicants who qualify.

All applicants are encouraged to apply for any scholarship assistance awarded by the state in which they legally reside. Students are urged to contact the appropriate agency in their home state for further information.

Financial aid is not automatically renewable. A new application for financial aid must be submitted for each academic year.

Financial Aid Application Deadlines

March 1

- priority date for filing the Free Application for Federal Student Aid (FAFSA). All students who wish to be considered for financial aid, must file the FAFSA. Late applications will be considered subject to the availability of funds.

May 1

- deadline for applying for the MASSGrant.
- deadline for on-time consideration for financial aid for the upcoming academic year

November 1

- deadline for on-time consideration for financial aid for students entering in the upcoming spring

Sources of Financial Aid

Worcester State has numerous financial aid programs available to assist students in meeting college costs. Funding for these programs comes from federal, state, institutional and private sources. Types of programs include grants, scholarships, waivers, loans, and employment. Please go to www.studentaid.ed.gov for more information on federal aid and www.osfa.mass.edu for more information on state aid.

Federal Grants and Benefits

Federal Pell Grant

The Federal Pell Grant is available to undergraduate students enrolled in a degree program who do not already have a bachelor's degree. For the 2010/2011 academic year, Pell Grants range from $555 to $5,550. All eligible students will receive the Federal Pell Grant amount to which they are entitled.

Federal Supplemental Educational Opportunity Grant

The Federal Supplemental Educational Opportunity Grant (FSEOG) is a federal grant administered by the College. These Grants are limited to undergraduate students who do not already have a bachelor's degree. Priority is given to students with exceptional need and to Pell Grant recipients. SEOG awards are determined by the Financial Aid Office.

Academic Competitiveness Grant

An Academic Competitiveness Grant will provide up to $750 for the first year of undergraduate study and up to $1,300 for the second year of undergraduate study to eligible full-time students who are eligible for a Federal Pell Grant and who had successfully completed a rigorous high school program, as determined by the state or local education agency and recognized by the Secretary of Education. Second year students must maintain a cumulative grade point average (GPA) of at least 3.0.

The National Science & Mathematics Access to Retain Talent Grant (National SMART Grant)

A National SMART Grant will provide up to $4,000 for each of the third and fourth years of undergraduate study to eligible full-time students who are eligible for a Federal Pell Grant

and who are majoring in physical, life, or computer sciences, mathematics, technology, or engineering or in a foreign language determined critical to national security. Students must maintain a cumulative grade point average (GPA) of at least 3.0.

Veterans' Benefits

The Veterans Administration has approved Worcester State for the purpose of providing Veteran's Educational Benefits to veterans pursuing undergraduate and graduate study. Massachusetts veterans entitled to educational benefits must provide the Registrar's Office with a copy of their Form DD-214. Upon receipt of this certificate and the veteran's application, the College will prepare a notice of enrollment and notify the Veterans Administration to determine eligibility for, and initiate payments to the student. Questions concerning veteran's benefits should be directed to the Office of the Registrar.

Grants and Waivers for Massachusetts Residents

MassGrant Program

The MASSGrant Program is administered and awards are made by the Office of Student Financial Assistance under the MA Department of Higher Education. Scholarship eligibility is verified by the Financial Aid Office. For the 2010-2011 academic year, scholarship awards at Worcester State ranged from $300 to $1,000. Application is made by completing the FAFSA. Massachusetts residents applying for financial aid who will enroll full-time must apply for MASSGrant by May 1. MASSGrant eligibility is limited to eight semesters.

Worcester State Need-Based Tuition Waiver and Massachusetts Cash-Grant Program

Full and partial need-based tuition waivers are awarded to selected students who demonstrate financial need and who are:

- undergraduate students
- in good academic standing
- legal residents of Massachusetts

Waivers may not exceed a semester's tuition charge and other waivers and/or tuition remissions for which a student is eligible will be deducted from the tuition charged before the need-based tuition waiver amount is determined.

Massachusetts Cash Grant is awarded based on need and cannot exceed tuition and fees.

Categorical Tuition Waivers

Worcester State students may be considered for tuition waivers based on the following designations (contact the Bursar about providing documentation of eligibility):

Veterans Tuition Waiver:

As provided in M.G.L. Chapter 4, Section 7(43) including: Spanish War, World War I, World War II, Korean, Vietnam, Lebanese peace keeping force, Granada rescue mission, the Panamanian intervention force, or the Persian Gulf.

For purposes of tuition waivers, the term "veteran" shall also include any individual who served in the Army, Navy, Marine Corps, Coast Guard or Air Force of the United States for not less than ninety days at least one of which was served in the theatre of operation for the Somalian mission known as "Operation Restore Hope" and whose last discharge or release was under honorable conditions.

Native American Tuition Waiver: Available and certified by the Bureau of Indian Affairs.

Senior Citizen Tuition Waiver: Available for persons over the age of 60.

Armed Forces Tuition Waiver: Available for an active member of the Armed Forces including Army, Navy, Air Force, or Coast Guard stationed and residing in Massachusetts.

Clients of the Massachusetts Rehabilitation Commission or Commission for the Blind: Available as certified by the respective commisison.

John and Abigail Adams Scholarship Program: Awards non-need-based state-supported undergraduate tuition waivers to students who are awarded John and Abigail Adams Scholarship by the Department of Education. Completion of a FAFSA, continuous full-time enrollment at a state college or university, and a 3.0 are required.

Tuition Advantage Program (TAP): Available to students who have completed a Joint Admissions academic program at a public community college and have maintained a 3.0 grade point average at the time of graduation. The award equals the difference between tuition at Worcester State and tuition at the community college.

Department of Social Services Adopted Children Waiver: This tuition waiver encompasses 100% of tuition for state-supported courses at all of the Massachusetts public institutions of higher education, excluding graduate courses. Eligible students include all students in the custody of the Department of Social Services adopted by eligible Massachusetts' residents through the Department of Social Services. Students must be twenty-four (24) or under. The Department of Social Services will provide certification of eligibility for the waiver; please contact them for further information.

Department of Social Services Foster Care Tuition Waiver: This tuition waiver encompasses 100% of tuition for state-supported courses at all of the Massachusetts public institutions of higher education, excluding graduate course. Eligible students include all students in the custody of the Department of Social Services placed in foster care with eligible Massachusetts' residents through the Department of Social Services. Students must be twenty-four (24) or under. The Department of Social Services will provide certification of eligibility for the waiver; please contact them for further information.

Massachusetts National Guard Scholarships: Members of the Massachusetts Army or Air National Guard Office Recruitment Program are eligible for 100% tuition remission. Eligibility must be renewed after each 30 credits attempted. Contact the Massachusetts National Guard or the Registrar's Office to speak to the Veteran's Representative for more information.

Police Officer/Fire Fighter Waiver: Tuition waivers are available to police officers or fire fighters of a city or town of the Commonwealth of Massachusetts for full-time attendance as a matriculated student when proper certificates and credentials are submitted to the Bursar's Office.

State Employees' Tuition Remission: State Employees and their dependents that elect to take courses at Worcester State may have some or all of their tuition waived. Documentation of eligibility should be submitted to the Bursar's Office. Eligible persons should contact the Personnel Office at their place of employment for further details.

Army/Navy/Air Force ROTC Scholarship Programs: The ROTC Scholarship is designed to offer financial assistance to outstanding students in the four year programs. Normally, the award is made prior to the student's first year of college; however, a student may enter the program in their first year. Recipients are required to serve on active duty in the branch of the Service they have elected for a period of four years, and then in the active reserve. Contact the ROTC Office at the College of the Holy Cross or Worcester Polytechnic Institute for further information.

Student and Parent Loans

Federal Stafford Loan/Unsubsidized Stafford Loans

The Federal Stafford Loan Program is a federal loan program designed to help a student pay expenses at institutions of post-secondary education. All Federal Stafford Loan applicants must demonstrate financial need in order to qualify for a subsidized loan. A student with no need or partial need may be eligible for an unsubsidized loan. A Free Application for Federal Student Aid (FAFSA) must be completed before a Federal Subsidized and/or Unsubsidized Stafford Loan can be processed. The interest rate for Federal Stafford Loans is variable but will not exceed 8.25%. The interest rate is adjusted each year on July 1. The repayment period for Federal Stafford Loans begins six months after the student/ borrower is graduated, ceases to be at least a half-time student or withdraws from school.

- **Dependent/Independent undergraduates** can receive subsidized Stafford Loans up to: 1) Students who have completed 1-29 credit hours of study are eligible for $3,500, 2) Students who have completed 30-59 credit hours of study are eligible for $4,500, 3) Students who have completed 60 or more credit hours of study are eligible for $5,500. Also, all students are eligible for up to $2,000 in additional unsubsidized Stafford Loans.
- **Independent students** and dependent students whose parents are unable to obtain a PLUS loan can borrow additional amounts from the Unsubsidized Federal Stafford Loan Program, in the amount of $4,000 for their first and second years of study and $5,000 for their third and fourth year.
- **Graduate students** can borrow up to $8,500 from the Subsidized Federal Stafford Loan Program if they qualify for this need based loan and for up to $12,000 from the Unsubsidized program if their cost of education warrants these amounts.

Stafford Loan borrowers should contact their servicer for specific information on repayment, deferment, cancellation and default provisions.

Federal Perkins Loans

The Federal Perkins Loan Program is administered by the College and offers long term, low interest loans to undergraduate and graduate students. Federal Perkins Loan awards are determined by the Financial Aid Office.

No interest is charged during periods of at least half-time enrollment and during the grace period. The interest rate is 5% per year during repayment periods. Loan repayment begins six or nine months after the borrower leaves school or drops below half-time status (6 credits at Worcester State). Minimum repayment is $120 per quarter. Loan repayment may not exceed 10 years.

Massachusetts No Interest Loans (NIL)

The Massachusetts No Interest Loan (NIL) program was created to provide eligible, needy Massachusetts residents attending post-secondary educational institutions in Massachusetts with a state-funded loan. The NIL program offers zero interest loans to assist students in meeting educational costs. Repayment begins after a grace period and students have a period of ten (10) years to repay their NIL loans. Massachusetts No Interest Loan awards are determined by the Financial Aid Office.

Federal Parent Loan to Undergraduate students (PLUS)

This loan enables parents of dependent undergraduates to borrow for their dependent's education. A FAFSA is required to receive a Federal Plus Loan. Repayment of this loan begins within 60 days of the date that the loan is disbursed. However, parents may apply for a deferment through their servicer. The interest rate is variable, adjusted annually,

not to exceed 9%. You may be charged up to a 3% fee which will be deducted from each disbursement of your parent loan. Parents may borrow up to the cost of attendance annually, less any financial aid awarded to the student. PLUS borrowers should contact their servicer for specific information on repayment, deferment, cancellation and default provisions.

Alternative Loans

Alternative loans may be available to assist students who have received the maximum financial aid award(s) allowed through grants, workstudy, and loans but still have remaining college expenses.

For more information regarding alternative loan options, contact the Financial Aid Office.

Student Employment

Federal College Work-Study Program

The Federal College Work-Study Program (FWSP) is a need-based program that provides federally subsidized employment opportunities on campus for enrolled students. A student's financial aid award letter indicates the FWSP award and maximum earnings limit, typically $1,500, depending on availability of funds and individual need. Students are paid only for hours actually worked. The FWSP wage rate is variable depending on placement. FWSP earnings are not applied directly to the student's tuition account without the student's written consent. These wages are paid directly to the student. Students employed under the FWSP Program are not eligible for unemployment compensation benefits or worker's compensation for on-the-job accidents. Students are encouraged to participate in employment that complements and reinforces their educational goals. Full-time students may not work more than 20 hours per week during the academic year.

Other On-Campus Employment

Some departments on campus - including the Student Center, the bookstore, the campus food service contractor, the Learning Resource Center, and the Housing Office - offer part-time jobs to students. Contact the department(s) for information on possible openings and application procedures. Students are encouraged to see if they qualify for FWSP funding before applying for these jobs.

Tuition Payment Plan

Worcester State participates in a tuition payment plan offered through Sallie Mae. The plan offers the family a low-cost, flexible method of paying for educational expenses by prorating these costs over 10 months. This is not a loan program. For more information visit www.tuitionpay.salliemae.com, or call 800-635-0120

Worcester State Scholarships for Entering Students

Presidential Scholarship

15 merit based scholarships awarded each year for full in-state day school tuition and fees. The student must have a recalculated GPA of 3.75 or above (using DHE methodology) and a combined SAT of 1200 (sub-score minimums of 500). The scholarship is renewable for a maximum of four contiguous years to recipients who maintain a minimum cumulative GPA of 3.3.

Tsongas Scholarship

5 merit based scholarships awarded each year to Massachusetts residents for full in-state day school tuition and fees. They must have a recalculated GPA of a 3.75 (using DHE methodology) and a combined SAT of 1200. The scholarship is renewable for a maximum of four contiguous years to recipients who maintain a minimum cumulative GPA of 3.3.

Merit Scholarship

20 merit based scholarships awarded each year for $3,000 each. The student must have a recalculated GPA of 3.5 or above (using DHE methodology) and a combined SAT of 1150 (sub-score minimums of 500). The scholarship is renewable for a maximum of four contiguous years to recipients who maintain a minimum cumulative GPA of 3.0.

Honors Scholarship

25 merit based scholarships awarded each year for $1,500 each. The student must have a recalculated GPA of 3.2 or above (using DHE methodology) and a combined SAT of 1100 (sub-score minimums of 500). The scholarship is renewable for a maximum of four contiguous years to recipients who maintain a minimum cumulative GPA of 3.0.

Access Scholarship

15 scholarships awarded each year to Massachusetts residents of under-represented populations including African American, Latino/a, Asian, and Native American applicants and first-generation, low-income applicants for $1000 each. The student must have a recalculated GPA of 2.5 (using DHE methodology) and a combined SAT of 920 with sub-score minimums of 460. The scholarship is renewable for a maximum four contiguous years provided recipients maintain a specific minimum cumulative GPA requirement.

Worcester State Academic Scholarships for Returning Students

Academic scholarships are available at Worcester State to full-time undergraduate students who demonstrate high academic achievement and meet the eligibility criteria. Financial need is a consideration for some, but not all, of these scholarships. Application materials and a current listing of scholarships are available at the Financial Aid Office each February and March, and online at www.worcester.edu/scholarshipdirectory.

THE 125TH ANNIVERSARY SCHOLARSHIP

(Two Awards Equal to Full Annual Tuition) The 125th Anniversary Scholarship will be awarded to a full-time undergraduate student entering his or her junior year with a minimum GPA of 3.0 and who demonstrates financial need.

LAEH AFRAME CLASS OF 1942 SCHOLARSHIP

(One $1,000 award) The Laeh Aframe Class of 1942 Scholarship will be awarded to one student who graduated from a public high school in Worcester. Applicants should provide a short essay attesting to the need for this grant and offering insight into his or her scholarly interests.

DR. JOSHUA UNUIGBOJE "OJE" AISIKU SCHOLARSHIP

(One $1,000 Award) The Dr. Joshua Unuigboje "Oje" Aisiku Scholarship will be awarded to a minority student in his or her senior year in the Middle/Secondary Education program who has a minimum GPA of 3.0 and a strong interest in teaching in the Worcester public school system. When no undergraduate qualifies in any given year, this award may be opened to graduate students enrolled in Education programs.

THE SHIRLEY ALBERT ENDOWED SCHOLARSHIP

(Four Awards Equal to Full Annual Tuition) The Shirley Albert Memorial Scholarship will be awarded to one or more deserving incoming or current students who have been actively involved in music or drama programs in their pre-college or college years. Preference shall be given to incoming students. Worcester State may award multiple scholarships each year, to the extent that eligible recipients can be identified, providing an amount equal to full in-state tuition. In certain situations, an amount greater than in-state tuition may be awarded to out-of-state students.

THE ALUMNI SCHOLARSHIP

(Six Awards Equal to Full Annual Tuition) This scholarship, established and supported by thousands of Worcester State Alumni, will be awarded to a total of six new or current students who is the son or daughter of a Worcester State Graduate.

VERA DOWDEN BALDWIN SCHOLARSHIP

($500 award) The Vera Dowden Baldwin Scholarship will be awarded to a student, with financial need, residing in Dowden Hall. Candidates should provide a short essay attesting to the need for this grant and submit it with the scholarship application. It should be noted that this scholarship will not be automatically renewed and applicants are encouraged to reapply each academic year as long as they maintain residency within Dowden Hall.

THE BEDARD FAMILY SCHOLARSHIP

($1,250 Award) The Bedard Family Scholarship will be awarded to a student entering his or her sophomore year of study in the Business Administration department. Candidates are those full time students who have demonstrated a high degree of ambition, motivation and a "can-do" attitude toward success. Candidates must work full or part time while attending Worcester State. An essay should accompany the application, indicating the students desire to explore the possibilities of business ownership and documenting what the student has done to pursue this goal. This scholarship is renewable based on performance. International students with a sincere interest in business should consider applying for this scholarship.

THE ARLYN STAHL BERLIN

($500 Award) The Arlyn Stahl Berlin Scholarship will be awarded to a full-time undergraduate student who demonstrates outstanding scholarship and provides evidence of financial need.

THE PROMILA BHAN SCHOLARSHIP

($1,000 per year) First preference given to an enrolled student of Indian descent. Second preference to a student who shows interest in and awareness of the cultural and historical impact of the people of the Indian subcontinent. Student must be in good academic standing and hold at least a 3.0 GPA, and demonstrate financial need.

THE BILINGUAL SCHOLARSHIP

(Amount Equal to One Full Annual Tuition Award) Awarded to a full-time student who is outstanding in a language other than his/her native language, shows financial need and has a minimum GPA of 3.3 or its equivalent.

THE JILL ANN BILODEAU MEMORIAL NURSING SCHOLARSHIP

(At Least Two Annual Awards Equal to $1,250) The Jill Ann Bilodeau Memorial Nursing Scholarship will be awarded to an undergraduate student who is entering his or her junior or senior year of study within the Nursing department. The applicant must be in good academic standing. An essay should accompany the scholarship application and this essay should express the applicant's reason for choosing the nursing profession. Preference will be given to students who have returned to college to continue their educational pursuits.

THE CYNTHIA J. (SWENSON) BLAIR MEMORIAL SCHOLARSHIP

($500 Award) The Cynthia J. (Swenson)Blair Memorial Scholarship will be awarded to a matriculated, non-traditional student.

THE OLIVE I. (LUTZ) BORGATTI ENDOWED SCHOLARSHIP

(Twelve Awards Equal to Full Annual Tuition) Eligibility Criteria: Applications will be reviewed by the Scholarship Committee and the scholarships awarded, in accordance with the following priorities: a.) First priority will be given to students who were previously employed by or are retirees of Spag's Supply, Inc or are children, spouses or relatives of former Spag's Supply employees or retirees. b.) All students who apply must be enrolled full time, have a GPA greater than 3.0 and be able to show financial need. c.) First-year students are eligible to apply and must provide their High School Academic records as evidence of academic achievement. d.) The award is not automatically renewable, but can be awarded more than once to the same student. Students must reapply each year.

THE JOSE BUNUAN MEMORIAL SCHOLARSHIP

($500 Award) The Jose Bunuan Memorial Scholarship is awarded to a junior enrolled in the Early Childhood Education program. The applicant must have a strong interest in educating children and must show evidence of financial need. Students applying for this scholarship should have a minimum cumulative grade-point average of 3.0.

RIC BUXTON MEMORIAL SCHOLARSHIP

($500 Award) The Ric Buxton Memorial Scholarship will be awarded to a current full-time student with a minimum grade point average of 3.0. The applicant should provide evidence of involvement with extracurricular activities.

SIDNEY BUXTON JR. SCHOLARSHIP AWARD

(Several Partial Tuition Awards)The Sidney Buxton, Jr. Scholarship Award will be awarded to a student who meets the following criteria: • A full-time student at Worcester State in the academic year prior to this application. • A participant of the Alternative for Individual Development (AID) program. • A sophomore or junior, with a minimum grade point average (GPA) of 2.50, who has completed a minimum of 24 credits within the last academic year. • Established participation with a community service event/agency.

THE BILL AND BETTY CAHILL SCHOLARSHIP

($1,000 award) The Bill and Betty Cahill Scholarship will be awarded on an annual basis to a non-traditional student seeking a career in the field of Elementary Education. The student should exemplify those qualities that Bill and Betty so richly evidenced: contribution and commitment. The following criteria have been established for this scholarship: (1) non-traditional Elementary Education student, (2) student in good standing, meeting all of the academic rigors associated with the elementary major, (3) a history of contribution and service to others, (4) evidence of financial need.

THE BLANCHE MARCUS CARNAM MEMORIAL SCHOLARSHIP

($500 Award) Awarded to a female student majoring in Mathematics or Computer Science with a strong career interest anda minimum grade point average of 3.0.

THE PAUL J. CARNAZZA SCHOLARSHIP

(Amount Equal to One Full Annual Tuition Award) The Paul J. Carnazza Scholarship is awarded to a new or current full-time student who shows superior scholarship and financial need combined with a strong career interest, with a minimum cumulative average of 2.8 and evidence of potential for future accomplishment.

THE LUCY CHAND NURSING SCHOLARSHIP

(Amount Equal to One Full Annual Tuition Award) The Lucy Chand Nursing Scholarship was established by her son, Ronald H. Chand and is awarded in accordance with the following priorities: A full or part-time student who is: a) An employee, former employee or relative of an employee at Chand Associates or any of it's subsidiaries and who is involved in the Nursing Program at Worcester State; b) An employee, former employee or relative of an employee at Chand Associates or any of it's subsidiaries who is a student with a 3.0 GPA or higher in any major; or c) Any student holding good academic standing in the Nursing Program at Worcester State. Though the award is not automatically renewable, an awardee may receive this annual scholarship more than once. A separate application would need to be filed each time.

THE FATHER ROLAND CHENIER MEMORIAL SCHOLARSHIP

(Amount Equal to One Full Annual Tuition Award) The Father Roland Chenier Memorial Scholarship will be awarded to a student who is entering his or her junior or senior year of undergraduate study. Applicants are asked to submit an essay that highlights his or her work and contributions to a religious group. Students may include a letter of recommendation from a member of the clergy within whom he/she has worked. Preference will be given to a student currently involved in a religious group that is presently affiliated with Worcester State.

CLASS OF 1953 ENDOWED SCHOLARSHIP

(Amount Equal to One Full Annual In-State Tuition) The Class of 1953 Endowed Scholarship is awarded to a full time undergraduate student majoring in Education in a program leading to teacher certification in Massachusetts. The student must demonstrate financial need and have a GPA of 3.0 or higher.

CLASS OF 1958 ENDOWED SCHOLARSHIP

(Two Awards Equal to Full Annual Tuition) The intent of the Class of 1958 Scholarship is to extend a "helping hand" through financial assistance to the recipient. The recipient may be an incoming first-year or a present student working his or her way through Worcester State. Preference will be given, but not limited to, a relative of a Worcester State graduate from the Class of 1958. The applicant must have a GPA of 2.75 or better and must include an essay expressing why he or she should be the recipient of this scholarship.

CLASS OF 2003 STUDENT LEADER SCHOLARSHIP

($500 per year) The Class of 2003 Student Leader Scholarship will be awarded to an undergraduate student who is ardently involved with campus activities. The applicant should provide a brief essay describing his or her involvement as a leader on the Worcester State campus. Preference will be given, but not limited to, a student in his/her junior or senior level of study.

THE JOHN F. COUGHLIN MEMORIAL SCHOLARSHIP

($500 per year) Awarded to a new or current student who demonstrates superior scholarship combined with a strong career interest and financial need.

THE FRANCIS CRIMMINS ENDOWED SCHOLARSHIP

(Two Awards Equal to Full Annual Tuition) The Francis Crimmins Endowed Scholarship will be awarded to a full-time undergraduate student majoring in Education who is employed at least part-time and lives off campus, with preference given to an individual interested in pursuing a career teaching mathematics at the middle- or high-school level.

THE MARGARET M. CURRAN ENDOWED SCHOLARSHIP

(Amount Equal to One Full Annual Tuition Award) The Margaret M. Curran Endowed Scholarship will be awarded to a full-time Elementary Education female student entering her junior or senior year who has maintained an overall G.P.A. of 3.3 or higher.

DAVIS ADVERTISING SCHOLARSHIP IN HONOR OF MARION AND LEONARD DAVIS

(Two $1,000 Awards) The Davis Advertising Scholarship in Honor of Marion and Leonard Davis will be awarded to a student majoring in Communication who exemplifies the qualities of hard work and determination. It should be noted that this scholarship will not be automatically renewed and applicants are encouraged to reapply each academic year.

THE PAUL '57, '59 AND BARBARA '71 DAVIS SCHOLARSHIP

($500 award) The Paul '57, '59 and Barbara '71 Davis Scholarship will be awarded to a full time undergraduate student, residing in Worcester County, with need.

THE ELIZABETH "BETTY" DEELY MEMORIAL SCHOLARSHIP

(Amount Equal to One Full Annual Tuition Award) The Elizabeth Deely Memorial Scholarship is awarded to a senior Nursing major who provides documented evidence of financial need. Preference will be given to applicants who are citizens of the United States.

THE GENE J. DEFEUDIS FAMILY ENDOWED SCHOLARSHIP

(Four Awards Equal to Full Annual Tuition) The Gene J. DeFeudis Family Endowed Scholarship will be awarded to incoming or full-time students with a minimum grade point average of 3.0. The applicant should provide evidence of financial need. *Preference will be given to students entering their first year of study.

THE ELDER ADVOCATES SCHOLARSHIP

($500 Award) The Elder Advocates Scholarship will be awarded to a worthy junior or senior applicant who demonstrates outstanding performance within his/her chosen discipline and who has demonstrated an interest in meeting the challenges of our aging society.

THE FAIRLAWN REHABILITATION HOSPITAL SCHOLARSHIP

($5,000 Award — up to 3 awarded annually) The Fairlawn Rehabilitation Hospital Scholarships are available to seniors in good academic standing in the Department of Nursing. Scholarship recipients must sign a letter of agreement that they are willing to work one year at Fairlawn Rehabilitation Hospital following graduation. Preference will be given to applicants entering their senior year, those who intend or have completed a preceptorship at Fairlawn Rehabilitation Hospital, or are current or former employees of Fairlawn Rehabilitation Hospital.

THE CAROLYN AND EUGENE FARRAHER MEMORIAL SCHOLARSHIP

($250 per year) Awarded to a junior or senior majoring in Health or Human Services with a minimum GPA of 3.0. The student should have a deep understanding of the importance of family and have demonstrated a commitment to community involvement.

FLAGSHIP BANK & TRUST COMPANY SCHOLARSHIP FUND

(Amount Equal to One Full Annual Tuition Award) The Flagship Bank & Trust Scholarship will be awarded in accordance with the following priorities: A full-time student with financial need who is: a) a Flagship Bank employee or child of a Flagship Bank employee; b) in the event of no eligible candidates from Flagship Bank, the scholarship is available to any Chittenden Corporation employee or child of any Chittenden Corporation employee; c) in the event of no eligible candidates from Flagship Bank or the Chittenden Corporation, the scholarship is available to any resident of Worcester. It should be noted that this scholarship will not be automatically renewed and applicants are encouraged to reapply each academic year.

THE ESTHER FORBES SCHOLARSHIP

($250 per year) First preference to a declared English Major who has a strong interest in becoming an author. Second preference to a student with junior or senior standing in the English Department. Must have a GPA of 3.0 or higher and demonstrate financial need.

THE DR. ELIZABETH V. FOSTER MEMORIAL SCHOLARSHIP

(Amount Equal to One Full Annual Tuition Award) The Dr. Elizabeth V. Foster Endowed Scholarship will be awarded to an undergraduate student who is entering his or her junior or senior year of study. The applicant must have a grade point average of 3.5 or higher. The student may also provide a recommendation from a member of Worcester State faculty.

THE GEORGE F. AND SYBIL H. FULLER FOUNDATION SCHOLARSHIP

(Ten $1,000 Awards) The George F. and Sybil H. Fuller Foundation Scholarship will be awarded to students with financial need. First preference will be given to students who have participated in programs offered by the Latino Education Institute at Worcester State. Second preference will be given to Latino/a students. It should be noted that this scholarship will not be automatically renewed and applicants are encouraged to reapply each academic year.

THE DAN GAVINI MEMORIAL SCHOLARSHIP

(Amount Equal to One Full Annual Tuition Award) The Dan Gavini Memorial Scholarship will be awarded to a full-time undergraduate student with need. An essay must accompany the application and should provide evidence of financial need as well as any "life circumstances" that should be taken into consideration by the Scholarship Committee. Though the award is not automatically renewable, an awardee may receive this annual scholarship more than once. A separate application would need to be filed each time.

DRS. KALYAN K. AND ABHA P. GHOSH ENDOWED SCHOLARSHIP

(Amount Equal to One Full Annual Tuition Award) The Kalyan K. and Abha P. Ghosh Scholarship will be awarded to an incoming or current student attending Worcester State. Incoming students must have a grade point average of 3.5 or higher while current matriculating students should carry a minimum of a 3.0 grade point average. The applicant must major in any Life or Physical Science or Computer Science/Mathematics Program and show evidence of financial need by demonstrating a maximum family income of $35,000 or less if the applicant is a dependent student.

THE KAHLIL GIBRAN SCHOLARSHIP

($250 per year) First preference to an enrolled student of Middle Eastern descent. Second preference to a student majoring in or showing an awareness of the politics and/or history of the Middle East. Student must have a GPA of 3.0 or better and junior standing or above.

THE CHARLES AND ESTHER GOLUB SCHOLARSHIP

(Amount Equal to One Full Annual Tuition Award) The Charles and Esther Golub Endowed Scholarship will be awarded to one full-time male student majoring in Business Administration or Economics who has demonstrated a high degree of motivation and responsibility while attending Worcester State.

THE DRS. LILLIAN R. GOODMAN AND MARY K. ALEXANDER ENDOWED NURSING SCHOLARSHIP

(Four $500 Awards) The Drs. Lillian R. Goodman and Mary K. Alexander Endowed Nursing Scholarship, *with support from the Lillian R. Goodman and Mary K. Alexander Fund for Nursing Education and Research of the Greater Worcester Community Foundation*, shall be awarded to two (2) nursing students entering their junior year of studies and two (2) nursing students entering their senior year of studies. Applicants are required to have a grade point average of 3.3 or higher and have demonstrated financial need.

THE DR. RUTH GRIFFITHS ENDOWED SCHOLARSHIP

(Amount Equal to One Full Annual Tuition Award) The Dr. Ruth Griffiths Endowed Scholarship will be awarded to either an undergraduate or graduate student majoring in Elementary Education. The applicant should have a grade point average of 3.0 or higher and his/her essay should show evidence of a commitment to the advancement of children and the teaching profession.

THE DR. ROSE D. HAROIAN ENDOWED SCHOLARSHIP

(Amount Equal to Full In-State Tuition) The Dr. Rose D. Haroian Endowed Scholarship will be awarded to a junior with a minimum GPA of 3.0 and a record of service to the college and/or community. The student must demonstrate a desire to continue his or her education in the field of speech/language and hearing.

THE FLORENCE VIVIAN "TIPPIE" HOLMES SCHOLARSHIP

(Amount Equal to One Full Annual Tuition Award) The Florence Vivian Holmes Scholarship will be awarded to a student who is majoring in elementary education and who is committed to teaching in the Worcester Public Schools in grades K – 6. This scholarship is granted to a junior-year student and shall be applied equally to the junior and senior years of his or her education. The recipient will have a minimum grade point average of 3.0. Preference will be given to a female applicant.

THE DON AND MARY JANE HOWARD SCHOLARSHIP

(Amount Equal to One Full Annual Tuition Award) The Don and Mary Jane Howard Scholarship will be awarded to an elementary education major in his/her sophomore, junior, or senior year who demonstrates a desire to teach at a public elementary school. First preference will be given to applicants who are the first in their family to attend college.

THE INDIA SOCIETY SCHOLARSHIP

($250 per year) First preference to an enrolled student of Indian descent. Second preference to a student with an understanding of the culture of the people of India. Student must have a 3.0 GPA or higher and have at least a junior standing.

THE INFORMED AND APPLIED CITIZENSHIP SCHOLARSHIP

($500 award) The Informed and Applied Citizenship Scholarship is awarded to a full-time student with good academic standing who has demonstrated relevant experiences of informed citizenship in the community or the college.

THE JOHN AND LORETTA (WHITE) JENSEN ENDOWED SCHOLARSHIP

(Two Awards Equal to Full Annual Tuition) The John and Loretta (White) Jensen Endowed Scholarship will be awarded to a new or currently enrolled full-time Worcester State student based on academic excellence. The applicant must have a grade point average of 3.0 or higher and major in Education. Preference will be given to a son, daughter or relative of a Delta Kappa Gamma, Delta Chapter member. The selected student will be given strong preference in following years (including graduate studies) to receive the annual scholarship providing their academic progress is satisfactory to Delta Kappa Gamma.

THE DR. FRANCIS L. JONES MEMORIAL SCHOLARSHIP

(Six Awards Equal to Full Annual Tuition) Awarded to an undergraduate student with a grade point average of 3.5 or better on the basis of need.

THE ROBIN L. KAPLAN '90 — TJX COMPANIES MEMORIAL SCHOLARSHIP

(Ten $1,000 Awards) The Robin L. Kaplan '90 —TJX Companies Memorial Scholarship will be awarded to economically disadvantaged students of diverse cultural and ethnic backgrounds who demonstrate both need and academic merit. Applicants must be enrolled full-time.

THE AILEEN D. KELLY MEMORIAL SCHOLARSHIP

(Three Awards Equal to Full Annual Tuition) The Aileen D. Kelly Memorial Scholarship will be awarded to an undergraduate or graduate student, a registered nurse, with a record of superior scholarship combined with a strong career interest and evidence of potential future accomplishment.

THE CHARLOTTE & BEN KLEIN ENDOWED SCHOLARSHIP FOR THE PERFORMING ARTS

(Amount Equal to One Full Annual Tuition Award) Applications for the Charlotte and Ben Klein Endowed Scholarship for the Performing Arts will be reviewed by the Scholarship Committee, and the scholarship awarded, in accordance with the following priorities: First preference will be given to a candidate who has pursued dance at an advanced level. The applicant should indicate where he or she received practical training in dance. If there are no applicants that meet this standard then: Second preference will be given to a candidate who has pursued any other performing art, such as theatre, music, etc. Consideration will be given to those applicants who show financial need, but this is not a requirement for the scholarship. An essay should accompany the application for this scholarship and it should indicate the student's long-term commitment to performing arts. * It is important to note that students who are fortunate enough to receive this scholarship will also be considered for a Charlotte Klein Dance Center Scholarship.

THE EDITH C. AND PHILIP A. KLINGLOF SCHOLARSHIP

(Ten Annual $1,000 Awards) The Edith C. and Philip A. Klinglof Scholarship will be awarded to students majoring in Education. Applicants must be enrolled full-time.

THE KEITH R. LAPIERRE '02 SCHOLARSHIP

($1,000 Award) The Keith R. Lapierre '02 Scholarship will be awarded to an undergraduate student who is majoring in education. Preference will be given to students who are returning to college to seek their education degree in order to switch to a career in teaching. An essay detailing their motivation to change careers should accompany the application.

THE KEVIN DAVID LYONS '65, '71 MEMORIAL SCHOLARSHIP

(Amount equal to One Full Annual Tuition Award) The Kevin David Lyons '65, '71 Memorial Scholarship will be awarded to a full-time student in his or her sophomore year who has a minimum GPA of 2.5, is involved in extracurricular activities, and demonstrates financial need.

THE ALLEN AND BARBARA (LYONS) '59 LEVESQUE ENDOWED BOOK FUND

(Six Annual $250 Voucher Awards) The Allen and Barbara (Lyons) '59 Levesque Endowed Book Fund will be awarded to full-time students who are entering their sophomore, junior, or senior year of study. Applicants should provide evidence of financial need. It should be noted that preference will be given to students majoring in the field of Education.

THE DAN MANNING, JR. OCCUPATIONAL THERAPY SCHOLARSHIP

(One Full Annual Tuition Award) The Dan Manning, Jr. Occupational Therapy Scholarship will be awarded to a full-time junior or senior majoring in the Bachelor of Science Occupational Studies Program. Applicants must provide evidence of financial need and have expressed an interest in becoming an occupational therapist.

THE FELIX E. MASTERSON MEMORIAL SCHOLARSHIP

(Two Awards Equal to Full Annual Tuition) The Dr. Felix E. Masterson Endowed Scholarship will be awarded to two undergraduate students enrolled in either the Education or Business Administration and Economics programs at Worcester State. The applicants must have a grade point average of 3.0 or higher. Preference will be given to students actively participating in college-sponsored extra-curricular activities.

THE BENJAMIN MATAN MEMORIAL SCHOLARSHIP

($500 Award) The Benjamin Matan Memorial Scholarship will be awarded to a student majoring in Elementary Education or Early Childhood Education who has shown a passion to teach young children and who describes that passion in their essay.

THE JULIA CRONIN MATTHEWS ENDOWED SCHOLARSHIP

($500 Award) The Julia Cronin Matthews Endowed Scholarship will be awarded to a female student entering her sophomore year who is majoring in history. The student applying for this award should have an interest in International Relations and the United Nations and provide evidence of this in essay form. Furthermore, to be considered for this award the applicant should be employed full-or part-time while attending Worcester State.

THE KATHLEEN M. MCALOON MEMORIAL SCHOLARSHIP

($1,000 award) The Kathleen M. McAloon Memorial Scholarship will be awarded to a full-time student with financial need who is majoring in either Urban Studies, Business Administration, or Economics with a GPA of 2.7 or higher. Applicants should provide an essay attesting to their need for this scholarship and describing their understanding of the parallels between economics and the field of Urban Studies (the understanding of complex challenges of urban/metropolitan areas).

THE MCGINN FAMILY SCHOLARSHIP

(Amount Equivalent to Full Annual In-State Tuition) The McGinn Family Scholarship will be awarded to a first generation college student, entering their sophomore, junior or senior year of study, who has financial need and a GPA of 3.0 or higher.

THE DOROTHY F. MCLOUGHLIN ENDOWED SCHOLARSHIP

(Amount Equal to One Full Annual Tuition Award) The Dorothy F. McLoughlin Endowed Scholarship will be awarded to a female student majoring in Elementary Education who demonstrates a need for financial assistance.

THE NATHANIEL MENCOW U.S. HISTORY SCHOLARSHIP

(Amount Equal to One Full Annual Tuition Award) The Nathaniel Mencow U.S. History Scholarship will be awarded to full-time undergraduate student who is majoring in history with a concentration in United States history and demonstrates financial need.

THE DR. MELVIN AND SHIRLEY (STAHL) MERKEN TWO CULTURES SCHOLARSHIP

($750 award), The Dr. Melvin and Shirley (Stahl) Merken Two Cultures Scholarship will be awarded to a Junior or Senior excelling in science who bridges the scientific and humanistic cultures through participation in theatrical, literary or athletic pursuits or service to the College or wider community.

THE DONALD AND MARY MORAN SCHOLARSHIP

(Amount equal to one full annual in-state tuition award) The Donald and Mary Moran Scholarship will be awarded to a student who meets the following criteria: a full-time student majoring in Elementary Education preparing to commence his/her student teaching; has a minimum GPA of 3.0; demonstrates collegiality amongst his/her peers and administrators; and possesses a genuine love and enthusiasm for educating young people.

THE FRANCES M. MOSCHELLA ELEMENTARY EDUCATION MEMORIAL SCHOLARSHIP

(Amount Equal to Full Annual Tuition) The Frances M. Moschella Scholarship will be awarded to a sophomore or junior enrolled in the Elementary Education Program. The applicant must have a strong interest in educating children and must show evidence of financial need. Preferably, students applying for this scholarship should have a minimum cumulative grade-point average of 3.0.

THE EILEEN AND WILLIAM MULLIN MEMORIAL SCHOLARSHIP

(Amount Equal to One Full Annual Tuition Award) The Eileen and William Mullin Memorial Scholarship will be awarded to a full-time undergraduate student majoring in Education in a program leading to teacher certification in Massachusetts. Applicants should demonstrate financial need and have a minimum 3.0 G.P.A.

THE WILLIAM MURPHY SCHOLARSHIP

($1,000 Award) The William Murphy Scholarship's first preference is that it be awarded to an incoming first-year student who is a graduate of Worcester's North High School and a commuter student with an interest in co-curricular activities. Second preference will be given to an incoming first-year student who is a graduate of a Worcester public high school.

THE NATIONAL GRID ENDOWED SCHOLARSHIP

(Four Awards Equal to Full Annual Tuition) Awarded to a full time student at Worcester State. Applicant must provide evidence of financial need, live in a city or town that is serviced by National Grid, and intend to take two or more courses in math or science.

THE ROBERT & BARBARA (HICKEY) O'BRIEN SCHOLARSHIPS

The following six scholarships will primarily be awarded to students who have demonstrated a high degree of industry, maturity, motivation and responsibility while attending Worcester State. Students who apply must be employed either full- or part-time and should reference their employment in their essay.

THE JAMES M. HICKEY MEMORIAL SCHOLARSHIP

(Amount Equal to One Full Annual Tuition Award) The James M. Hickey Memorial Scholarship is awarded by the donor to a full-time senior, and will be awarded to students who have demonstrated a high degree of industry, maturity, motivation and responsibility while attending Worcester State. Students who apply must be employed either full or part-time and should reference their employment in their essay.

THE ROBERT IVOR O'BRIEN MEMORIAL SCHOLARSHIP

(Amount Equal to One Full Annual Tuition Award) The Robert Ivor O'Brien Memorial Scholarship is awarded by the donor to a full-time junior, and will be awarded to students who have demonstrated a high degree of industry, maturity, motivation and responsibility while attending Worcester State. Students who apply must be employed either full or part-time and should reference their employment in their essay.

THE ARLINE LANOIS O'BRIEN/KNIGHT MEMORIAL SCHOLARSHIP

(Amount Equal to One Full Annual Tuition Award) The Arline Lanois O'Brien/Knight Memorial Scholarship is awarded by the donor to a full-time sophomore, and will be awarded to students who have demonstrated a high degree of industry, maturity, motivation and responsibility while attending Worcester State. Students who apply must be employed either full or part-time and should reference their employment in their essay.

THE JULIA MOYNIHAN HICKEY MEMORIAL SCHOLARSHIP

(Amount Equal to One Full Annual Tuition Award) The Julia Moynihan Hickey Memorial Scholarship is awarded by the donor to a full-time first-year student, and will be awarded to students who have demonstrated a high degree of industry, maturity, motivation and responsibility while attending Worcester State. Students who apply must be employed either full or part-time and should reference their employment in their essay.

BARBARA (HICKEY) '57 O'BRIEN SCHOLARSHIP FUND

(Amount Equal to One Full Annual Tuition Award) The Barbara (Hickey) '57 O'Brien Scholarship will be awarded to a student majoring in Education who exemplifies the qualities of hard work and determination. Applicants must submit the following: Evidence that they maintain a full or part-time job while pursuing a college degree; A letter of recommendation and a personal essay attesting to their high level of maturity, perseverance and industriousness. It should be noted that this scholarship will not be automatically renewed and applicants are encouraged to reapply each academic year.

THE ROBERT K. O'BRIEN '58 SCHOLARSHIP

(Amount Equal to One Full Annual Tuition Award) The Robert K. O'Brien '58 Scholarship will be awarded in accordance with the following priorities: A full-time student who has demonstrated a high degree of industriousness and has declared a minor in secondary education. (In the event that there is more than one qualified candidate, the Scholarship Review Committee will give preference to an applicant who has plans to teach Math or Science.)

THE ADA CHEEVER PERRY MEMORIAL SCHOLARSHIP

(Partial Tuition - $250 per semester) Applicants for this scholarship must be full-time undergraduate students at Worcester State, entering their junior or senior year and pursing a major in Chemistry, Computer Science, Nursing or Management. Students with a minor in Secondary Education will also be considered. Applicants must have a minimum GPA of 2.7, must demonstrate financial need and must be citizens of the United States.

THE DR. A. BARBARA PILON ENDOWED SCHOLARSHIP

(Amount Equal to One Annual Full Tuition Award) The Dr. A. Barbara Pilon Endowed Scholarship will be awarded to a student majoring in English. The applicant must have a grade point average of 3.0 or higher and have expressed an interest in becoming an English teacher.

THE ICIK AND ROSE PLEVINSKY MEMORIAL SCHOLARSHIP

(Amount Equal to One Annual Full Tuition Awards) The Icik and Rose Plevinsky Memorial Scholarship is the first endowed scholarship for business students at Worcester State. This scholarship is awarded to a female full-time Business Administration student with a minimum GPA of 3.0 with demonstrated financial need.

THE MARY M. REARDON ENDOWED SCHOLARSHIP

(Amount Equal to One Full Annual Tuition Award) The Mary M. Reardon Scholarship will be awarded to a student who majors in Early Childhood Education. Preference will be given to, but not limited to, students with some disability or who intend on working with children with some disability.

VICTOR & ANGELIA REZEN MEMORIAL SCHOLARSHIP FUND

(One $1,250 Award) The Victor and Angelia Rezen Memorial Scholarship will provide financial assistance to an undergraduate student who is academically excellent and is committed to continuing his/her education and becoming an audiologist. To be selected the student must meet all of the following criteria: be a student entering his/her senior year in the Communication Sciences & Disorders Department; is committed to pursuing his/her education and becoming an audiologist after completing his/her course work and degree at Worcester State; submits a letter of recommendation from a member of the Worcester State Communication Sciences and Disorders Audiology faculty attesting to his/her commitment to continuing his/her education to become an audiologist and his/her worthiness for selection for this award; and has a GPA of 3.5 or higher. However, a student with a lower GPA will be considered if his/her letter of recommendation from the Audiology faculty member indicates that the academic record will enable the student to obtain entrance to a doctoral program in audiology.

THE GREGG ROSEN '86 AND PAMELA (SWARTZ) '87 ROSEN ENDOWED SCHOLARSHIP

(Amount Equal to One Full Annual Tuition Award) The Gregg Rosen '86 and Pamela (Swartz) '87 Rosen Endowed Scholarship will be awarded to students majoring in Business or Early Childhood Education with a grade point average of 3.0 or better.

THE ALLEN AND RUTH R. (SADICK) RUBIN '52 ENDOWED SCHOLARSHIP TO HONOR THEIR PARENTS

(Amount Equal to Full Annual Tuition) The Allen and Ruth R. (Sadick) Rubin '52 Scholarship will be awarded to an undergraduate student in the Education Department who is majoring in Elementary Education. The applicant must have a grade point average of 3.0 or higher. Consideration will be given to those candidates who show financial need.

THE SARAH E. SHARBACH MEMORIAL SCHOLARSHIP

(Amount Equivalent to Full Annual Tuition) The Sarah E. Sharbach Memorial Scholarship will be awarded to a student who has financial need and a demonstrated passion for social justice. Preference will be given to women of color.

THE HELEN G. SHAUGHNESSY ENDOWED SCHOLARSHIP

(Amount Equal to One Full Annual Tuition Award) The Helen G. Shaughnessy Endowed Scholarship will be awarded to a student who is entering his or her senior year in the Elementary Education program. The applicant must have a grade point average of 3.5 or higher in their major and should provide evidence of financial need.

THE LT. COL. JAMES F. SHEEHAN '55, USMC RET. ENDOWED SCHOLARSHIP

(Two $2,500 awards) The Lt. Col. James F. Sheehan '55, USMC Ret.Endowed Scholarship will be awarded to sophomore, junior or senior students who are matriculated and attending Worcester State full time. The students must have GPAs of 3.5 or higher and demonstrate financial need. Preference will be given to students who are participating in the NROTC program at Worcester State.

THE SHAREN CUTTING SHIPLEY SCHOLARSHIP

(Amount Equal to One Full Annual Tuition Award) The Sharen Cutting Shipley Scholarship will be awarded to a full-time undergraduate student, working part-time, who demonstrates a need for financial assistance.

THE MARY CATHERINE SMALLEY MEMORIAL SCHOLARSHIP

($500 Award) The Mary C. Smalley Memorial Scholarship Fund was established to assist disabled nursing students who embody the values that Mary embraced to achieve her goal of becoming a nurse. It is hoped that by providing this assistance a worthy student will go on to make contributions that will improve the delivery of healthcare. Further, that the recipient's personal hardships will be a source of strength and inspiration for themselves, their colleagues, and those they nurse. Applicants must be enrolled in the Nursing Program at Worcester State and have at least a 3.0 GPA. Preference will be given to candidates who are disabled.

THE HELEN M. SMITH SCHOLARSHIP

($100 per year) Students from the City of Worcester are given first preference for the Helen M. Smith Scholarship. The applicant should show evidence of scholarly achievement and personal integrity. The student applying for this award must have a GPA of 3.0 or higher and demonstrate financial need.

THE MARY W. SMITH SCHOLARSHIP

($500 Award) Awarded to a new or current student who shows financial need.

ROBERT M. SPECTOR ENDOWED SCHOLARSHIP

(Amount Equal to One Full Annual Tuition Award) The Robert M. Spector Endowed Scholarship will be awarded to a full-time history major in his or her junior or senior year with a GPA of 3.5 or higher, with preference given to a student who has plans to pursue graduate studies in law or history education.

THE OLIVIA ROCHELLE SPENCER MEMORIAL SCHOLARSHIP

($500 Award) The Olivia Rochelle Spencer Memorial Scholarship is open to all students enrolled in a degree program (including incoming first-year student) who have a commitment to community involvement and who have a GPA of 2.7 or higher. The student must be able to provide evidence of financial need. First preference will be given to citizens of the United States who are of African descent. Second preference will be given to students who are majoring in Education or minoring in Art. The award is not automatically renewable but can be awarded more than once to the same student. Students must reapply each year.

THE DR. EUGENE A. SULLIVAN SCHOLARSHIP

(Amount Equal to One Full Annual Tuition Award) Awarded to a new or current student whose major is Education. Preference given to, but not limited to, the son or daughter of a Worcester State graduate.

TEXTBOOK FUND

(Ten $100 Awards) These awards are given to full-time students who demonstrate financial need. To be considered for these awards, students should submit an essay, following the guidelines on the form included in the Scholarship Listing Catalog.

THE MARY D. TATEOSIAN SCHOLARSHIP

(Amount Equal to One Full Annual Tuition Award) The Mary D. Tateosian Scholarship will be awarded to a student who meets the following criteria: • A matriculated student who is enrolled in a degree program; • A student in his/her sophomore, junior, or senior year of study with a GPA of 2.5 or higher; • A student who exemplifies industriousness inside and outside the classroom.

THE JESSIE E. TURNER CLASS OF 1911 ENDOWED SCHOLARSHIP

(Amount Equal to One Full Annual Tuition Award) The Jessie E. Turner Class of 1911 Endowed Scholarship will be awarded to a student who is majoring in Elementary Education.

THE CHESTER S. WARNER SCHOLARSHIP

($500 Award) Awarded to a new or current student whose major is Education.

THE ALUMNI ASSOCIATION OF THE WORCESTER CITY HOSPITAL SCHOOL OF NURSING ANNIE VIGEANT SCHOLARSHIP

(Two $1,000 Awards Per Year) The Alumni Association of the Worcester City Hospital School of Nursing Annie Vigeant Scholarship will be awarded according to the following priorities:

A full or part-time nursing student who is: (a) A graduate of Worcester City Hospital School of Nursing; (b) A son, daughter, grandson, granddaughter, niece or nephew of a graduate of Worcester City Hospital School of Nursing; (c) A resident of Worcester or Worcester County; (d) Any student holding good academic standing in the Nursing Program. This scholarship will not be automatically renewed and applicants are encouraged to reapply each academic year. *Two $1,000 awards will be granted but it should be noted that it is possible that this scholarship be awarded to one student in the amount of $2,000 if only one student meets the above criteria.

WORCESTER ROTARY CLUB SCHOLARSHIP

(Two Awards Equal to Full Annual Tuition) Worcester Rotary Club Scholarships will be awarded to full time, "non-traditional" students with financial need. A non-traditional student is typically 25 years of age or older, is or has been married, is a parent, is a veteran, and/or has worked full time to earn a living or support a household. Other "non-traditional" attributes will be considered.

FALL 2010 ACADEMIC CALENDAR

September	
1	Pre-College Conference
2	**Classes begin: day, evening, graduate**
6	**Labor Day: NO CLASSES**
8	Last day to add day courses (state-supported)
15	Last day to drop day courses (state-supported)
15	Last day to add/drop evening/graduate courses (non state-supported)
October	
11	**Columbus Day: NO CLASSES**
13	Last day to makeup *Incomplete* grades from Spring/Summer 2010
18	Last day to declare/change major or minor
20	Failure warnings due in the Registrar's Office
25	Failure warnings issued to students
November	
5	Last day to withdraw from courses/school
8-23	Pre-registration for Spring 2011
11	**Veterans' Day: NO CLASSES**
12	Last day to elect Pass/Fail option
24-27	**Thanksgiving Recess**
11/29-12/02	Student evaluation of faculty
December	
9	**All classes end**
10	Reading Day
13-21	Final Exams-day classes
22-23	Make-up days for exams postponed due to inclement weather
31	**Semester ends**

FINAL EXAMINATION SCHEDULE: FALL 2010

CLASS DAY AND TIME		EXAMINATION DAY / DATE / TIME		
MW/MWF	8:00/8:30 a.m.	Monday	December 13	8:30 a.m.
MWF	9:30 a.m.	Wednesday	December 15	8:30 a.m.
MWF	10:30 a.m.	Friday	December 17	8:30 a.m.
MW/MWF	11:30 a.m.	Monday	December 13	12:30 p.m.
MW/MWF	12:30 p.m.	Wednesday	December 15	12:30 p.m.
MW/MWF	1:30/2:00 p.m.	Friday	December 17	12:30 p.m.
F	11:30/12:30/1:30 p.m.	Monday	December 20	8:30 a.m.
MW	3:30 p.m.	Monday	December 20	12:30 p.m.
TR	8:00/8:30 a.m.	Tuesday	December 14	8:30 a.m.
TR	10:00 a.m.	Thursday	December 16	8:30 a.m.
TR	11:30 a.m.	Tuesday	December 14	12:30 p.m.
TR	1:00 p.m.	Thursday	December 16	12:30 p.m.
TR/T	2:30 p.m.	Tuesday	December 21	8:30 a.m.
R	2:30 p.m.	Tuesday	December 21	12:30 p.m.

SPRING 2011 ACADEMIC CALENDAR

January		
	17	**Martin Luther King Day: NO CLASSES**
	18	**Classes begin: day, evening, graduate**
	25	Last day to add day courses (state-supported)
February		
	1	Last day to drop day courses (state-supported)
	1	Last day to add/drop evening, graduate courses (non state-supported)
	21	**President's Day: NO CLASSES**
March		
	2	Last day to make up *Incompletes* from Fall 2010
	14-19	**Spring Break: NO CLASSES**
	18	Failure warnings due in Registrar's office
	21	Last day to declare/change major or minor
	23	Failure warnings issued to students
	30	Last day to withdraw from courses/school
April		
	6	Last day to elect Pass/Fail option
	11-26	Pre-registration for Fall 2011
	18	**Patriot's Day: NO CLASSES**
	25-29	Student evaluation of faculty
May		
	3	**All classes end**
	4	Reading Day
	5-13	Final exams-day classes
	14	**Commencement and end of semester**

FINAL EXAMINATION SCHEDULE: SPRING 2011

CLASS DAY AND TIME		EXAMINATION DAY / DATE / TIME		
MW/MWF	8:00/8:30 a.m.	Friday	May 6	8:30 a.m.
MWF	9:30 a.m.	Monday	May 9	8:30 a.m.
MWF	10:30 a.m.	Wednesday	May 11	8:30 a.m.
MW/MWF	11:30 a.m.	Friday	May 6	12:30 p.m.
MW/MWF	12:30 p.m.	Monday	May 9	12:30 p.m.
MW/MWF	1:30/2:00 p.m.	Wednesday	May 11	12:30 p.m.
F	11:30/12:30/1:30 p.m.	Friday	May 13	8:30 a.m.
MW	3:30 p.m.	Friday	May 13	12:30 p.m.
TR	8:00/8:30 a.m.	Thursday	May 5	8:30 a.m.
TR	10:00 a.m.	Tuesday	May 10	8:30 a.m.
TR	11:30 a.m.	Thursday	May 5	12:30 p.m.
TR	1:00 p.m.	Tuesday	May 10	12:30 p.m.
TR/T	2:30 p.m.	Thursday	May 12	8:30 a.m.
R	2:30 p.m.	Thursday	May 12	12:30 p.m.

Undergraduate Academic Departments, Faculty, Programs and Courses

This listing of a course in this catalog is not a guarantee that the course will be offered in any particular semester: course offerings are subject to change in response to student enrollment, faculty availability, changes in program requirements and other circumstances.

Course Numbering: The 100 level offerings are introductory or survey courses that generally do not require prerequisites. The 200 level courses are intermediate and may require prerequisite courses. The 300 level courses are advanced and require prerequisite courses. The 400 level courses are generally for seniors and include seminars, independent study, and internships. Courses at the 900 level are open only to post-baccalaureate students.

العربية

Arabic
Department of World Languages

Faculty

Mohamed Brahimi, Instructor (2009)
B.A., M.A., Suffolk University

Courses in Arabic are designed for students whose interests and career plans have an international or multi-ethnic focus. Students who study Arabic will develop listening, speaking, reading, and writing fluency at the beginning and intermediate levels. Arabic 101 and 102 also form part of the requirements for the Minor in Middle East Studies offered by the Department of History and Political Science.

Requirements for a Minor in Middle East Studies: 18 credits.

HI 261 Middle East History I.
HI 314 Twentieth Century Middle East History
AB 101 Arabic I
AB 102 Arabic II
6 credits recommended by advisor

Arabic Courses

For information on the Liberal Arts and Sciences Curriculum (LASC), see page 36

AB 101 Beginning Arabic I

LASC—Thought, Language and Culture

Introduction to the Arabic language and cultures of the Arabic-speaking world.
3 credits

AB 102 Beginning Arabic II

LASC—Thought, Language and Culture

A continuation of AB 101, designed for students to acquire additional vocabulary, grammar, and reading ability.
3 credits

AB 210 Intermediate Arabic I

LASC—Thought, Language and Culture

Introduction in advanced rules of Arabic grammar and verb system, and in advanced writing and reading.
3 credits

AB 211 Intermediate Arabic II

LASC—Thought, Language and Culture

Reading and discussion of texts dealing with literature, arts, geography, history, and culture of Arabic-speaking world.
3 credits

Note: *Courses in other foreign languages such as German, Latin, Russian, Chinese and Hebrew are offered when demand warrants and staffing permits.*

Art

Department of Visual and Performing Arts

Faculty

Michael C. Hachey, Professor (1993), Department Chair
B.F.A., M.F.A., Massachusetts College of Art

Stacey Parker, Assistant Professor (2007)
B.F.A. Alfred University; M.F.A., Rochester Institute of Technology

Amaryllis Siniossoglou, Associate Professor (2005)
PEP, Royal College of Art, London, England; M.F.A., University of Massachusetts, Amherst; Ecole Nationale Superieure Des Beaux-Arts, Paris, France; Diplome Superieur d' Art Plastique; School of Art, Athens, Greece; Drawing and Painting School, Certificate

Catherine Wilcox-Titus, Assistant Professor (2004)
B.A., University of Toronto; M.S., Simmonds College; M.A., Ph.D., Boston University

The art program's objectives are to sharpen visual perception, to deepen understanding of art history, and to teach technical skills and concepts to further the student's appreciation and creation in the visual arts. Interdisciplinary courses relate the visual arts to the arts of music and theatre, in both contemporary and historic periods.

Requirements for a Major
The newly instituted Interdisciplinary Visual and Performing Arts Major offers concentrations in Art, Music, or Theatre. *See Visual and Performing Arts Department.*

Requirements for a Minor in Art: 18 credits, including a minimum of three credits in art history and at least one art course at the 300-level. Worcester State reserves (with the student's permission) the right to retain some student work for demonstration and exhibition. The art program is committed to providing a foundation for students' ongoing appreciation and creative involvement in the visual arts, design, and education.

Art Courses

For information on the Liberal Arts and Sciences Curriculum (LASC), see page 36

AR 100 Cross Media Studio

An introduction to selected two- and three-dimensional media through the exploration of a semester-long theme such as the human figure, or forms in nature.
Offered every year. 3 credits

AR 105 Introduction to Animation

This hands-on introductory level course covers the fundamentals and aesthetics of computer animation using the Adobe AfterEffects motion graphics program.
Offered every year. 3 credits

AR 112 World Art Survey I

LASC—Creative Arts; Thoughts, Language and Culture

Surveys the world's major cultural achievements in the visual arts from the prehistoric period to ca1400.
Offered every year. 3 credits.

AR 113 World Art Survey II

LASC—Creative Arts; Thoughts, Language and Culture

Major cultural achievements in the visual arts from ca1400 to the early twentieth century.
Offered every year. 3 credits.

AR 117 Visual Design: Two-Dimensions

LASC—Creative Arts

A foundation for visual literacy through studio work utilizing such art elements as line, form, color, and texture.
Offered every year. 3 credits.

AR 122 Visual Design: Three-Dimensions

LASC—Creative Arts

A foundation for visual literacy through studio work utilizing spatial elements such as plane, mass, volume, and structure.
Offered every year. 3 credits.

AR 130 Painting I

LASC—Creative Arts

An introduction to the fundamentals of historical painting styles, techniques, and materials used, with emphasis on visual perception and expression.
Offered every year. 3 credits.

AR 140 Drawing I

LASC—Creative Arts

The development of visual awareness, technical skills, and individual expression in drawing media.
Offered every year. 3 credits.

AR 150 Life Studio I

LASC—Creative Arts

Focus on the human figure through different modes of drawing and painting. Attention to structure and anatomy and their expressive aspects.
Offered every year. 3 credits.

AR 160 Sculpture I

LASC—Creative Arts

Three-dimensional studio creations through a variety of traditional and contemporary materials. Both realistic and abstract concepts are explored.
Offered every year. 3 credits.

AR 165 Creating Cultural Forms

LASC—Creative Arts

A studio course. Concepts of art forms created by a variety of world cultures and art movements of the past and present.
Offered every year. 3 credits.

AR 193 Special Topics in Art for First-year Students

All "193" classes are approved for LASC but may vary by section. See current course listing for specific LASC area approval.

Introductory level course covering topics of special interest to first-year students. Offered only as a First-year Seminar.
Offered every year. 3 credits.

AR 200 History of American Art

LASC—Creative Arts; Thoughts, Language and Culture

A survey of the visual arts in the United States, from the Colonial Period to the present.
Offered every year. 3 credits.

AR 225 Art Since Mid-Century

LASC—Creative Arts; Thought, Language and Culture

Explores challenges to the traditional definitions of the art object and the expanded materials, media and concepts employed by artists since 1950.
Offered every year. 3 credits.

AR 230 Printmaking

LASC—Creative Arts

Introduction to the techniques and aesthetics of monotype and relief. Prints by major artists are examined.
Offered every year. 3 credits.

AR 235 Mixed Media

Prerequisite: One studio course

Advanced investigation and experimentation in the use of interrelated media and materials of two- and three-dimensions.
Offered every year. 3 credits.

AR 240 Watercolor

LASC—Creative Arts

A studio course exploring various techniques and expressive forms used by watercolorists of the past and present.
Offered every year. 3 credits.

AR 250 The Computer in Studio Art I

The computer as a medium for visual art. Emphasis on individual creations in book arts.
Offered every year. 3 credits.

AR 260 Visual Arts in the Schools

LASC—Creative Arts

An exploration of art materials and concepts, and their appropriate use with children. Includes studio projects, art history, and educational theory.
Offered every year. 3 credits.

AR 300 Painting II

Prerequisite: AR 130 or consent of instructor

Continuation of painting with emphasis on individual development through interpretive projects.
Offered every 2 years. 3 credits.

AR 302 Drawing II

Prerequisite: AR 140 or consent of instructor

Advanced projects in drawing with increasing emphasis on individual direction.
Offered every 2 years. 3 credits.

AR 305 Life Studio II

Prerequisite: AR 150 or consent of instructor

Continued drawing and painting focusing on the human figure, with emphasis on interpretive and individual development.
Offered every 2 years. 3 credits.

AR 306 Sculpture II

Prerequisite: AR 160 or consent of instructor

Further exploration of sculptural form with a diversity of materials, techniques, and expressive meaning.
Offered every 2 years. 3 credits.

AR 307 The Computer in Studio Art II

Prerequisites: AR 250, CM 150 or permission of instructor.

Use the computer as a medium for visual art. Software programs for computer-generated image making. Focus on digital printmaking.
Offered every year. 3 credits.

AR 325 Seminar in Contemporary Art

Prerequisite: AR 225 or permission of the instructor.

In-depth study of international movements in contemporary art. Explores the intersection of art and science, abstract and figurative work, installation, site-specific, multimedia and performance art.
Offered every year. 3 credits

AR 330 Intermediate Printmaking

Prerequisite: AR 230

Continuation of relief printmaking in an individual direction using tone/color and multiple blocks.
Offered every year. 3 credits.

AR 350 Special Topics in Art

Prerequisite: One studio course or consent of instructor

A course covering topics which vary in response to specific student and faculty interest.
Offered every 3 years. 3 credits.

AR 400 Independent Study in Art

Prerequisites: Limited to art minors with minimum of 12 credits

An opportunity for further individual study in a special interest. Self-directed under supervision of faculty.
Offered every year. 3 credits.

AR 402 Internship in Art

Prerequisite: Limited to art minors

An individual experience through internship with a sponsoring community organization, professional institution or individual, i.e., museums, galleries, artists.
Offered every 3 years. 3-6 credits.

Biology
Department of Biology

Faculty

Latifeh Amini-Kormi, Professor (1994)
B.S., Teheran University; Ph.D., University of Pennsylvania

Daron C. Barnard, Assistant Professor (2006)
B.A., Middlebury College; Ph.D., Vanderbilt University

Peter M. Bradley, Professor (1993)
B.Sc., University of Aberdeen; Ph.D., Worcester Polytechnic Institute

Brad A. Bryan, Assistant Professor (2008)
B.S., Stephan F. Austin State University; M.S., Ph.D., Texas A & M University

Ellen F. Fynan, Professor (1993), Department Chair
B.S., University of Maine; Ph.D., Thomas Jefferson University

Steven J. Oliver, Associate Professor (2003)
B.A., University of Montana; Ph.D., Boston University

Surindar M. Paracer, Professor (1970)
B.S., Punjab University; M.S., South Dakota State University; Ph.D., University of California

Maura Collins Pavao, Associate Professor (2001)
B.S., Worcester Polytechnic Institute; M.S., Ph.D., Rutgers University

Antonieto S. Tan, Professor (1993)
B.S., M.S., University of San Carlos; Ph.D., University of Southern Mississippi

Randall Tracy, Associate Professor (2003)
B.S., M.S., University of Connecticut; Ph.D., Arizona State University

Tze-Hei Yong, Assistant Professor (2009)
B.S., Universiy of New Mexico; Ph.D., Cornell University

The faculty in the life sciences offer courses and programs to provide for the general education of students and preparation of the major and minor in Biology. A program leading to the Master of Science in Biotechnology degree is also available. The biology courses may be supplemented with courses in nuclear medicine technology, administrative studies, health education, sports medicine and public health biology. Beta Beta Beta, the national honor society in biology, is available to distinguished majors.

Requirements for a Major in Biology

Required Biology courses: 38 credits

BI 140 Introduction to Organismal Biology
BI 141 Introduction to Cellular and Molecular Biology

BI 200 Human Biology
BI 202 Principles of Ecology
BI 203 Genetics
BI 204 Microbiology
BI 404 Biology Seminar
3 Upper Division Electives

Ancillary Requirements: 28-34 credits

MA 110 & MA 150	College Algebra and Statistics **or**
MA 200 & MA 201	Calculus I and II
PY 221 & PY 222	General Physics I and II **or**
PY 241 & PY 242	Physics I and II
CH 120 & CH 121	General Chemistry I and II
CH 201 & CH 202	Organic Chemistry I and II

Upper division Biology electives

Cellular/Molecular Biology

BI 324 Endocrinology
BI 371 Molecular Biology
BI 372 Immunology
BI 375 Virology
BI 410 Biochemistry
BT 375 Tissue Culture
BT 376 Biotechnology
BT 378 Bioinformatics

Organismal Biology

BI 304 Comparative Vertebrate Anatomy
BI 306 Developmental Biology
BI 313 Histology
BI 315 Neurosciences
BI 321 Comparative Physiology
BI 340 Plant Sciences
BI 341 Mycology
BI 342 Plant Physiology
BI 360 Animal Behavior

Population and Environmental Biology

BI 301 Invertebrate Zoology
BI 302 Entomology
BI 303 Parasitology
BI 331 Marine Biology
BI 333 Vertebrate Natural History Ectotherms
BI 334 Wildlife Investigational Techniques
BI 344 Soil Biology
BI 352 Symbiosis and Evolution
BI 380 Biodiversity and Conservation Biology

(**Note:** Pre-med and Graduate school candidates should also take CH 203 & CH 204 Organic Chemistry laboratory in addition to CH 201 and CH 202)

A minimum of three upper division laboratory courses (BI 300- or BI 400-level) are to be selected from three categories of Biology electives. No more than two courses can be taken from any single group. The courses should be selected with the advice and consent of the faculty advisor. A grade point average of 2.0 must be maintained in biology courses and in the ancillary science and mathematics courses. Students considering graduate and professional work should take, as a recommended minimum, courses in general physics, calculus, introduction to computer science and statistics.

Honors Program in Biology

The Honors Program in Biology is designated as a distinction bestowed on those outstanding undergraduate Biology majors who have demonstrated distinct competence in overall biology course work and who have completed an independent research project of substantial merit. This program offers motivated students the opportunity to develop research and communication skills in preparation for graduate school or a professional career.

Requirements for the Honors Program in Biology

All courses required for the major in Biology:
BI 205 Research Methods and Experimental Design (2 credits)
BI 402 Independent Study in Biology (3-5 credits)*
Written thesis describing original research

**"Commendation in Biology" requires 3 credits of BI 402 Independent Study in Biology and a minimum 3.0 GPA in biology courses. "Honors in Biology" requires 5 credits of BI 402 Independent Study in Biology and a minimum of 3.5 GPA in biology courses.*

For more information and specific program requirements, contact Dr. Randall Tracy in the Department of Biology.

Requirements for a Minor in Biology

BI 140 Introduction to Organismal Biology
BI 141 Introduction to Cellular and Molecular Biology

Four additional 200-level or higher Biology or Biotechnology laboratory courses.

Requirements for a Major in Biology, Concentration in Nuclear Medicine Technology:
48 credits

Worcester State offers, in conjunction with the University of Massachusetts Medical School, a concentration in Nuclear Medicine Technology (NMT), administered by a program advisory committee and accredited by the Joint Review Committee on Educational Programs in Nuclear Medicine Technology.

Nuclear medicine is a study of techniques developed in hospitals, particularly in radiology, pathology and internal medicine departments. These techniques are used for both diagnostic and therapeutic purposes. Students interested in being considered candidates for admission to the program should contact either the program coordinator or the nominating committee as early in their college career as possible. The program is limited to a relatively small number of students.

Prerequisites for the program include successful completion of:

BI 161 & BI 162	Human Anatomy and Physiology I and II
CH 110 & CH 111	Introduction to General, Organic & Biochemistry I and II
or	
CH 120 & CH 121	General Chemistry I and II
MA 200 & MA 201	Calculus I and II
PY 221 & PY 222	General Physics I and II **or**
PY 241 & PY 242	Physics I, II

Candidates must visit the Medical School Nuclear Medicine Department and file intent to enroll forms with the Worcester State Nuclear Medicine Technology coordinator prior to being considered a candidate for the program.

Technical specialty courses of the NMT Program are:

Introduction and Hospital Orientation (no credit)

BI 252	Radiation Biology
BI/PY 451 & BI/PY 452	Nuclear Instrumentation I and II
BI 461, BI 462, BI 463, & BI 464	NMT Clinical Practicum I, II, III and IV
BI/CH 453	Radiopharmaceuticals
BI/CH 465 & BI/CH 466	Clinical Nuclear Medicine Technology I and II

Students majoring in Biology, Biotechnology, Chemistry or Natural Science may pursue the Concentration in Nuclear Medicine Technology.

Major in Biology, Concentration in Bioinformatics

The purpose of this interdisciplinary concentration is to prepare students to enter the computer-intensive fields of bioinformatics, computational biology, computational chemistry, and molecular modeling including genomics and proteomics. With the advent of the Human Genome Project, an explosion of genomic information has occurred, and databases such as GenBank and EMBL have grown at a rate that now requires storage, organizing and indexing of the information. Questions of gene expression have led to computational biology, the process of analyzing genomic sequences and to the field of proteomics, the understanding of protein structure and function. The information obtained by computational biology and computational chemistry is used in the design of new drugs to treat a variety of diseases. Major drug and biotechnology companies are seeking people trained in bioinformatics.

In addition to the requirements for the Major in Biology:

BT 378	Bioinformatics*	4
CS 140	Introduction to Programming	4
CS 242	Data Sructures	3
CS 282	UNIX Systems Programming	3
CS 265	Database Applications	3

*BT 378 Bioinformatics fulfills an upper division Cellular/Molecular Biology elective. (requires BI 141 or BI 203 as a prerequisite)

Requirements for a Major in Biology and to meet the prerequisites for the Accelerated Pharmacy Program with Massachusetts College of Pharmacy and Health Science
(Please see program description on page 56)

All of the courses listed for a major in biology plus:

CH 203	Organic Chemistry Laboratory I
CH 204	Organic Chemistry Laboratory II

Biology Courses (Undergraduate)

For information on the Liberal Arts and Sciences Curriculum (LASC), see page 36

BI 101 Concepts of Biology

LASC—Natural Systems and Processes

Unifying principles in biology; diversity and evolution of plant and animal life at cellular and organismic levels. Three lecture hours and a two hour laboratory per week
Offered every year. 4 credits.

BI 111 Social Biology

This course considers the interface between current biological technologies and the social, cultural, legal, and moral postures of modern man.
Offered every year. 3 credits.

BI 112 Diseases and Mankind

Diseases of ancient and modern man; the impact on history, religion, science, art and philosophy.
Offered every year. 3 credits.

BI 114 Plants and Human Affairs

LASC—Global Perspectives; Natural Systems and Processes

Man's dependence upon plants and their influence on civilization and its art, religions, literature, folklore, medicine, and human behavior.
Offered every 2 years. 3 credits.

BI 116 Animal Biology

Survey of animal kingdom with emphasis on animal diversity, morphology, life histories, ecological and evolutionary relationships. Three lecture hours and two laboratory hours per week.
Offered every 3 years. 4 credits.

BI 120 Darwinian Revolution

An interdisciplinary perspective on the philosophical, religious, and social impacts of Darwin's theory of evolution by the process of natural selection.
Offered every 2 years. 3 credits.

BI 140 Introduction to Organismal Biology

LASC—Natural Systems and Processes

Evolution, ecology, anatomy, physiology and diversity of organisms. Three lecture hours and three laboratory hours per week.
Offered every year. 4 credits.

BI 141 Introduction to Cellular and Molecular Biology

LASC—Natural Systems and Processes

Cellular and molecular concepts in biology. Emphasis on the structure and varied functions of the cell. Three lecture hours and three laboratory hours per week.
Offered every year. 4 credits.

BI 161 Human Anatomy and Physiology I

Considers human cellular biology, tissues, integumentary, nervous, endocrine, skeletal and muscular systems. Three lecture hours and three laboratory hours per week.
Offered every year. 4 credits.

BI 162 Human Anatomy and Physiology II

LASC—Natural Systems and Processes

Prerequisite: BI 161

Considers digestive, respiratory, cardiovascular, urinary, immune and lymphatic systems; water and electrolyte balance, reproduction and embryology. Three lecture hours and three laboratory hours per week.
Offered every year. 4 credits.

BI 193 Special Topics in Biology for First-year Students

All "193" classes are approved for LASC but may vary by section. See current course listing for specific LASC area approval.

Introductory level course covering topics of special interest to first-year students. Offered only as a First-year Seminar.
Offered every year. 3 credits.

BI 199 Selected Topics in Biological Sciences

Each topic is a lecture and/or laboratory course in a selected area of the biological sciences presented by a departmental instructor. Topics will be announced in advance.
Offered every year. 1-4 credits.

BI 200 Human Biology

Prerequisites: BI 105, BI 106 or BI 140, BI 141

A systemic approach to the study of human biology. The course will emphasize structure/function relationships and homestatic mechanisms. Three hour lecture and three hour lab.
Offered every year. 4 credits.

BI 202 Principles of Ecology

Prerequisites: BI 106 or BI 140, 1 college math course (algebra, stats or calculus)

Basic ecological theory relating to organism-environment interactions; population dynamics and ecosystems. Three lecture hours and three laboratory hours per week.
Offered every year. 4 credits.

BI 203 Genetics

Prerequisites: BI 105 or BI 141

Introductory genetics with examples of human inheritance and recent developments in genetic engineering. Three lecture hours and three laboratory hours per week.
Offered every year. 4 credits.

BI 204 Microbiology

Prerequisites: Introductory chemistry and biology courses

The structure and replication of microorganisms. Infectious diseases and immune responses are emphasized. Three lecture hours and three laboratory hours per week.
Offered every year. 4 credits.

BI 205 Research Techniques and Experimental Design

Prerequisites: BI 140, BI 141, MA 150

Investigations in experimental design and research methodologies required for the Honors program in Biology. Two lecture hours per week.
Offered every year. 2 credits.

BI 252 Radiation Biology

Prerequisites: BI 105, and BI 106 or BI 140/BI 141 or BI 162

Basic theories of interaction of ionizing radiations with living and non-living matter; industrial and clinical applications.
Offered every 3 years. 3 credits.

BI 262 Pathophysiology

Prerequisites: BI 161, BI 162

Considers altered biophysiologic responses of selected systems in the human body.
Offered every year. 3 credits.

BI 266 Biology of Aging

Considers characteristics of the aging process utilizing the newest theories based upon dynamics, function and metabolic regulations, disease and the acceleration of the aging process.
Offered every 3 years. 3 credits.

BI 271 Basic Kinesiology

Prerequisites: BI 161

Structure and function of human skeletal muscles in relation to motion and general body mechanics under normal and stress conditions.
Offered every year. 3 credits.

BI 301 Invertebrate Zoology

Prerequisites: BI 105, BI 106 or BI 140, BI 141

Considers anatomy, taxonomy (including selected articles of the International Code of Zoological Nomenclature), natural history, and evolutionary relationships of selected invertebrate phyla. Three lecture hours and three laboratory hours per week.
Offered every 2 years. 4 credits.

BI 302 Entomology

Prerequisite: BI 106 or BI 140

Considers insects and their allies, chemical and biological control, and special references to agricultural pests and medical entomology. Three lecture hours and three laboratory hours per week.
Offered every 3 years. 4 credits.

BI 303 Parasitology

Prerequisite: BI 106 or BI 140

Basic concepts in symbiology, life cycles, epidemiology, disease development, control and prevention of selected human parasites. Three lecture hours and three laboratory hours per week.
Offered every 2 years. 4 credits.

BI 304 Comparative Vertebrate Anatomy

Prerequisites: BI 105, BI 106 or BI 140, BI 141

Considers prochordate and chordate taxonomy and phylogeny; systematic morphological comparison of representative chordates to establish homology, analogy, and evolution. Three lecture hours and three laboratory hours per week.
Offered every 3 years. 4 credits.

BI 306 Developmental Biology

Prerequisites: BI 105, BI 106 or BI 140, BI 141 and BI 203

Study of developmental patterns, cellular differentiation and cell interactions resulting in cellular diversity, organization, and perpetuation of the germ line. Three lecture hours and three laboratory hours per week.
Offered every 3 years. 4 credits.

BI 313 Histology

Prerequisites: BI 105, BI 106 or BI 140, BI 141

The structure and function of animal tissues. Each student is required to prepare tissues using histological methods. Three lectures hours and three laboratory hours per week.
Offered every 2 years. 4 credits.

BI/NS 315 Neurosciences

Prerequisites: BI 161, BI 162 or BI 105, BI 106 or BI 140, BI 141 or BI 200

Structural and functional organization of the central and peripheral nervous system. Principles of normal and abnormal transmission, integration, and storage of information in neuronal pathways. Three lecture hours and three laboratory hours per week
Offered every year. 4 credits.

BI 321 Comparative Physiology

Prerequisites: BI 105, BI 106 or BI 140, BI 141

A comparison of select physiological functions of different animal taxa with mammals used as a reference. Three lecture hours and three laboratory hours per week.
Offered every 2 years. 4 credits.

BI 324 Endocrinology

Prerequisites: BI 105, BI 106 or BI 140, BI 141

The role of endocrine glands in the normal integration of animals; mechanisms of hormone action, function, and interrelationships. Three lecture hours and three laboratory hours per week.
Offered every 2 years. 4 credits.

BI 331 Marine Biology

Prerequisites: BI 105, BI 106 or BI 140, BI 141

Considers the marine environment, its flora and fauna, distribution and production of plankton-nekton-benthos; zoogeography, bioeconomic factors and potential. Three lecture hours and three laboratory hours per week.
Offered every 2 years. 4 credits.

BI 333 Vertebrate Natural History of Ectotherms

Prerequisites: BI 105, BI 106 or BI 140, BI 141

Life histories, adaptations, distribution, systematics, and economic importance of ectothermic (cold-blooded) vertebrates (fish, amphibians, and reptiles) in northeastern U.S. Three lecture hours and three laboratory hours per week.
Offered every 2 years. 4 credits.

BI 334 Wildlife Investigative Techniques

Prerequisites: BI 106 or BI 140, BI 202

Considers procedures for collection and analysis of field and laboratory data on vertebrate game populations useful to wildlife biologists. Three lecture hours and three laboratory hours per week.
Offered every 2 years. 4 credits

BI 340 Plant Sciences

Prerequisites: BI 105 and 106 or BI 140 and BI 141

Morphology, anatomy, physiology of flowering plants with studies on life cycles, ecological relationships, biochemical processes and evolution of plant diversity. Three lecture hours and three laboratory hours per week.
Offered every 3 years. 4 credits.

BI 341 Mycology

Prerequisite: BI 106 or BI 140

The morphology, cytology, and evolution and classification of the fungi. Three lecture hours and three laboratory hours per week.
Offered every 2 years. 4 credits.

BI 344 Soil Biology

Prerequisites: BI 105 and 106 or BI 140, BI 141

Includes study of nutrient cycling, relations between plants, animals and microbes, ecology of polluted soils and soil biotechnology. Three lecture hours and three laboratory hours per week.
Offered every 3 years. 4 credits.

BI 352 Symbiosis and Evolution

Prerequisites: BI 105 and 106 or BI 140, BI 141

Origin and nature of microbial life, evolution of multicellular organisms and the central role played by biological symbioses. Lecture and Laboratory.
Offered every 2 years. 4 credits

BI 360 Animal Behavior

Prerequisite: BI 202

Survey of ethology and behavioral ecology from an historical and evolutionary perspective. Laboratory involves observation and recording of animal behavior.

Offered every year. 4 credits

BI 371 Molecular Biology

Prerequisites: BI 201 or BI 141, BI 204; or CH/BI 410

Emphasis on the molecular biology of the gene. Topics include structure, function, replication, transcription, recombination, mutability, repair and regulation of DNA. Three lecture hours and three laboratory hours per week.
Offered every 2 years. 4 credits.

BI 372 Immunology

Prerequisites: BI 105, BI 106 or BI 140, BI 141, BI 204

Study of immune system elements and defense mechanisms. Immunological disorders will be discussed. Three lecture hours and three laboratory hours per week.
Offered every 2 years. 4 credits.

BI 375 Virology

Prerequisites: BI 105 and 106 or BI 140, BI 141, BI 204

Physical structure and replication schemes of viruses; role of viruses in human disease, research and commercial applications. Three lecture hours and three laboratory hours per week.
Offered every 3 years. 4 credits

BT 375 Tissue Culture

Prerequisite: CH 120, CH 121

A review of the methods of animal and plant tissue culture. Media preparation, aseptic techniques and cell culture technology. Three lecture hours and three laboratory hours per week.
Offered every year. 4 credits.

BT 376 Biotechnology

Prerequisite: CH 120, CH 121, BI 201 or BI 141

Principles and applications of recombinant DNA (molecular & microbial aspects). The Biotechnology Industry, including bioreactor manufacturing standards and government rules. Three lecture hours and three laboratory hours per week.
Offered every year: 4 credits.

BT 378 Bioinformatics

Prerequisites:BI 201 or BI 141 or BI 203

Provides an overview of Bioinformatics including database structure, genomics, computational biology and proteomics.
Offered every 2 years. 4 credits.

BI 380 Biodiversity and Conservation Biology

Prerequisites: BI 105 and 106 or BI 140, BI 141

A theoretical and quantitative approach to species, genetic, ecosystem and community diversity in the context of modern conservation biology principles.
Offered every 3 years. 4 credits

BI 401 Selected Topics in Biological Sciences

Prerequisites: Consent of department and instructor

Each topic is a lecture and/or laboratory course in a selected area of the biological sciences presented by a departmental instructor and/or guest lecturers when appropriate; topic announced in advance.
Offered every 3 years. 1-4 credits.

BI 402 Independent Studies In Biology

Prerequisites: Consent of department and instructor

Advanced semi-independent study (by qualified upper-level Biology majors) of an approved biological problem. Faculty supervision required.
Offered every year. 1-6 credits.

BI 403 Biology Internship

Prerequisite: Consent of department

Intended for qualified, upper-level biology majors. Faculty advisor required. (Should not be used for major requirements.)
Offered every year. 1-6 credits.

BI 404 Biology Seminar

Prerequisite: Senior Standing

Preparation and presentation of biological topics, chosen with the advice and consent of a faculty advisor.
Offered every year. 2 credits.

BI/CH 410 Biochemistry I

Prerequisite: CH 201, CH 202

The chemistry of proteins, nucleic acids, carbohydrates, and lipids; enzymes, biological oxidations; and correlations in intermediary metabolism. Three lecture hours and three laboratory hours per week.
Offered every 2 years. 4 credits.

BI/CH 411 Biochemistry II

Prerequisite: BI/CH 410

The generation and storage of metabolic energy; biosynthesis of macromolecular precursors, DNA, RNA, and protein; and biochemical regulation. Three lecture hours and three laboratory hours per week.
Offered every 2 years. 4 credits.

BI/PY 451 Nuclear Instrumentation I

Prerequisite: Consent of NMT coordinator

Structure, functions, and interactions of particulate and nonparticulate radiations with matter; detection, calibration, dosage, and statistical methods.
Offered every year. 4 credits.

BI/PY 452 Nuclear Instrumentation II

Prerequisite: Consent of NMT coordinator

Designed to further the skills of operating, calibrating, and performing routine maintenance on scanners, gamma cameras, well-counters, and liquid scintillation counters.
Offered every year. 4 credits.

BI/CH 453 Radiopharmaceuticals

Prerequisite: Consent of NMT coordinator

Fundamental concepts of radiopharmaceutical production and use; includes basic radiochemistry.
Offered every year. 4 credits.

BI 461/BI 462 NMT Clinical Practicum I and II

Prerequisite: Consent of NMT coordinator

Students will spend several days a week in a hospital observing the ongoing activities and procedures of a nuclear medicine facility.
Offered every year. 5 credits each.

BI 463 NMT Practicum III

Prerequisite: Consent of NMT coordinator

Guided and supervised by clinical instructors, students begin to acquire manual skills essential to nuclear medicine technology; and in performing all routine nuclear medicine examination and laboratory procedures.
Offered every year. 6 credits.

BI 464 NMT Practicum IV

Prerequisite: Consent of NMT coordinator

Upon completion of this practicum, students should be skilled in performing both routine and non-routine nuclear medicine examinations and laboratory procedures.
Offered every year. 4 credits.

BI/CH 465 Clinical Nuclear Medicine Technology I

Prerequisite: Consent of NMT coordinator

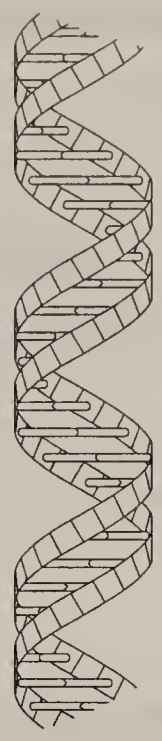
Considers why a specific test is indicated; which radiopharmaceutical is preferred; and how the basic image appearance, and/or numerical data may be altered by pathological states.
Offered every year. 4 credits.

BI/CH 466 Clinical Nuclear Medicine Technology II

Prerequisite: Consent of NMT coordinator

Case presentations using formulas, charts, tables, and calculations to arrive at examination parameters such as dose, number of counts, speed of instrument, etc.
Offered every year. 4 credits.

Biotechnology
Department of Biology



Faculty

Maura Collins Pavao, Associate Professor (2001)
Coordinator of the Biotechnology Program
B.S., Worcester Polytechnic Institute; M.S., Ph.D., Rutgers University

Peter M. Bradley, Professor (1993)
B.Sc., University of Aberdeen; Ph.D., Worcester Polytechnic Institute

Worcester State offers a program in biotechnology to meet the need for skilled laboratory associates in the experimental laboratory and in manufacturing facilities of the biotechnology industry. Biotechnology graduates are trained in tissue culture, molecular biology, protein purification, analytical chemistry, regulatory affairs and are eligible for internships.

Graduates are qualified for careers in research and development, quality assurance, quality control, and manufacturing as well as for further (graduate) eduction.

The Biotechnology major is sponsored jointly by the departments of Biology and Chemistry.

Faculty Advisors

Dr. Peter M. Bradley, Biology
Dr. Alan Cooper, Chemistry
Dr. Maura Collins Pavao, Biology (Biotechnology Program Coordinator)
Dr. John Goodchild, Chemistry

Requirements for a Major in Biotechnology

BI 201 or BI 141	Cell Biology	4
BI 204	Microbiology	4
BT 375	Tissue Culture	4
BT 376	Biotechnology	4
BT 410	Biotechnology Seminar	1
CH 120 & CH 121	General Chemistry I & II	8
CH 201 & CH 203	Organic Chemistry I, plus Lab	5
CH 210	Chemical Analysis	4
CH 410	Biochemistry I	4

Plus two major electives that include:

Major Electives

BI 372	Immunology	4
BI 371	Molecular Biology	4
BI 252	Radiation Biology	4
BI 375	Virology	4
CH 350	Medicinal Chemistry	3
CH 202	Organic Chemistry II	3
CH 204	Organic Chemistry II Lab	2
PY 310	Modern Physics	3
CH 411	Biochemistry II	4
BI 341	Mycology	4
BT 377	Fermentation Technology	4
BT 378	Bioinformatics	4

And certain other BI 300, CH 300 and PY 300 level courses.

In addition, majors are expected to complete the following ancillary courses:

MA 190 Precalculus (may be waived), MA 200 Calculus I, MA 201 Calculus II or BI 203 Genetics, MA 150 Statistics, PY 221 & PY 222 General Physics I & II, CS 120 Microcomputer Applications, EN 252 Technical Writing or EN 253 Business Communications.

Requirements for a Major in Biotechnology and to meet the prerequisites for the Accelerated Pharmacy Program with Massachusetts College of Pharmacy and Health Science *(Please see program description on page 56)*

All of the courses listed for a major in biotechnology plus:

BI 140	Introduction to Organismal Biology
BI 141	Introduction to Cellular and Molecular Biology
CH 202	Organic Chemistry II
CH 204	Organic Chemistry Laboratory II

Major in Biotechnology, Concentration in Bioinformatics

The purpose of this interdisciplinary concentration is to prepare students to enter the computer-intensive fields of bioinformatics, computational biology, computational chemistry, and molecular modeling including genomics and proteomics. With the advent of the Human Genome Project, an explosion of genomics information has occurred, and databases such as GenBank and EMBL have grown at a rate that now requires storage, organizing and indexing of the information. Questions of gene expression have led to computational biology, the process of analyzing genomic sequences and to the field of proteomics, the understanding of protein structure and function. The information obtained by computational biology and computational chemistry is used in the design of new drugs to treat a variety of diseases. Major drug and biotechnology companies are seeking people trained in bioinformatics.

In addition to the requirements for the Major in Biotechnology:

BT 378	Bioinformatics*	4
CS 140	Introduction to Programming	4
CS 242	Data Sructures	3
CS 282	UNIX Systems Programming	3
CS 265	Database Applications	3

*counts as an upper division Cellular/Molecular Biology elective.

Requirements for a Major in Biotechnology, Concentration in Nuclear Medicine Technology: See program description under Biology.

Biotechnology Courses (Undergraduate)

For information on the Liberal Arts and Sciences Curriculum (LASC), see page 36

BT110 Introduction to Concepts of Biotechnology

LASC—Natural Systems and Processes

The uses of Biotechnology. The scientific, economic, social, ethical, and political impact of Biotechnology.
Offered every 2 years. 3 credits.

BT 210 Introduction to Forensics

LASC—Natural Systems and Processes

Prerequisite: Complete one quantitative reasoning course

Survey of forensic case studies and the laboratory techniques used to solve crimes including microscopy, chromatography, entomology, botany, ballistics and DNA electrophoresis.
Offered every 3 years. 4 credits.

BT 375 Tissue Culture

Prerequisite: CH 120, CH 121

A review of the methods of animal and plant tissue culture. Media preparation, aseptic techniques and cell culture technology. Three lecture hours and three laboratory hours per week.
Offered every year. 4 credits.

BT 376 Biotechnology

Prerequisite: CH 120, CH 121, BI 201 or BI 141

Principles and applications of recombinant DNA (molecular & microbial aspects). The Biotechnology Industry including bioreactor manufacturing standards and government rules. Three lecture hours and three laboratory hours per week.
Offered every year. 4 credits.

BT 377 Fermentation Technology

Prerequisites:BI 201 or BI 141, BI 204

Explores the application of biological and engineering principles involved in manufacturing pharmaceutical products.
Offered every 2 years. 4 credits.

BT 378 Bioinformatics

Prerequisites: BI 201 or BI 203 or BI 141

Provides an overview of Bioinformatics including database structure, genomics, computational biology and proteomics.
Offered every 2 years. 4 credits.

BT 410 Biotechnology Seminar

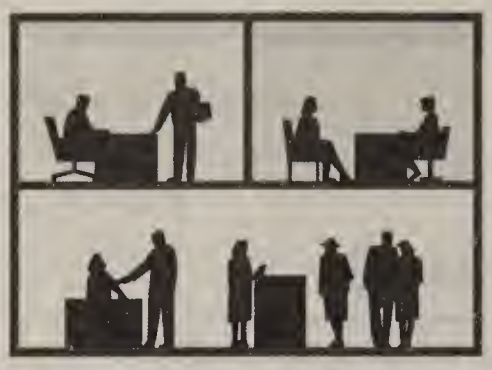
Prerequisites: Consent of Department

Up-to-date developments in Biotechnology; preparation and presentation of technical literature. Students will study new techniques and procedures used by the industry.
Offered every year. 1 credit.

BT 450 Internship in Biotechnology

Prerequisite: Consent of department

Qualified upper-level biotechnology majors can learn experimental techniques by working in a research laboratory or a professional manufacturing environment.
Offered every year. 3-6 credits.



Business Administration

Department of Business Administration and Economics

Faculty

Laurie A. Dahlin, Professor (2001), CMA
B.S., Nichols College; M.B.A., Assumption College; D.B.A., Nova Southeastern University

Robert C. Fink, Professor (2002)
B.A., Coe College; M.B.A., University of Iowa; D.B.A., Boston University

Renuka Jain, Professor (1985)
M.Sc., Rajasthan University; Ph.D., McGill University

Tejendra N. Kalia, Associate Professor (2004)
B.E., Indian Institute of Technology; M.E., McGill University;
M.B.A., Anna Maria College; D.B.A., Nova Southeastern University

Wei Pang Lee, Professor (1992), Department Chair
B.A., Soochow University, Taipei, Taiwan; M.B.A., Northwest Missouri State University;
Ph.D., University of Georgia, Athens

Harry Lo, Assistant Professor (2008)
Diploma in Economics, New Asia College; M.A., Ph.D., University of Georgia

Mark L. Love, Instructor (2006)
B.S., B.A., M.B.A., Nichols College; CPA, Commonwealth of Massachusetts

Augustus N. Luparelli, Associate Professor (2002)
B.A., Fitchburg State College; M.A., Worcester State College;
Ph.D., University of Connecticut

Joan (Jay) Mahoney, Professor (2002)
B.S., North Adams State College; M.B.A., Western New England College;
Ph.D., State University of New York at Buffalo

Dennis P. Moore, Professor (1983)
B.S., University of Southern New Hampshire; M.B.A., Northeastern University;
M.S., Bentley College; CPA, Massachusetts

Rodney Oudan, Associate Professor (2005)
Certificate in Marketing, Charted Institute of Marketing, England; Post-Certificate in Marketing, University of West Indies, Trinidad; Master of Management, Cambridge College, Massachusetts; D.B.A. in Marketing, Nova Southeastern University, Florida.

Elizabeth A. Siler, Assistant Professor (2008)
B.A., Boston University; M.B.A., Simmons College;
Ph.D., University of Massachusetts, Amherst

Maureen C. Stefanini, Professor (1967)
B.S., Ed.M., Worcester State College; M.S., Management, Massachusetts Institute of Technology; Ed.D., Boston University

James J. Swanson, Professor (1984)
B.S., Bryant College; M.B.A., University of Rhode Island; M.S.T., Bryant College; CPA, Rhode Island

Elizabeth J. Wark, Professor (2007)
B.A., Mount Holyoke College; M.B.A., University of Massachusetts; M.A., Ph.D., Clark University

The Business Administration program enables participants to acquire competencies necessary to manage the human, financial and technological resources of organizations. The major in Business Administration offers three concentrations: Management, Accounting/ Finance, Marketing.

Admission Requirements: Application to the department after completion of the following prerequisite courses:

CS 120	Microcomputer Applications
EC 110	Introduction to Microeconomics
EC 120	Introduction to Macroeconomics
EN 253	Business Communications
MA 150 or EC 150	Statistics
MA 202 or EC 202	Business Calculus/Introduction to Mathematical Economics

To be accepted to the major, a student must complete all prerequisite courses with a C (2.0) or better average.

Requirements for a Major in Business Administration: 48 credits in Business Administration, of which a minimum of 25 must be completed at Worcester State.

Common Business Core: 36 credits

Lower Division

BA 200	Principles of Management and Organizational Behavior
BA 210	Fundamentals of Accounting I
BA 220	Fundamentals of Accounting II
BA 230	Managerial Accounting **or** BA 374 Cost Accounting
BA 250	Analytical Techniques in Business

Upper Division

BA 305	Organizational Dynamics
BA 312	Operations Management I
BA 316	Financial Management
BA 318	Principles of Marketing
BA 350	Business Information Systems and Applications
BA 480	The Legal Environment of Business **or** BA 320 Business Law I
BA 490	Business Strategy and Policy

BA Electives: *Other Upper Division (300-level or above) Business Administration courses: at least 12 credits*

Requirements for a Major in Business Administration, Concentration in Management: The Common Business Core together with a minimum of four additional courses in one of the fellowship areas of studies chosen with the assistance of the advisor.

Requirements for a Major in Business Administration, Concentration in Accounting: The Common Business Core together with four additional courses in the field of accounting chosen with the assistance of the advisor.

Requirements for a Major in Business Administration, Concentration in Marketing: The Common Business Core together with four additional courses in the field of marketing chosen with the assistance of the advisor.

Requirement for Major in Business Administration, Concentration in International Business:
The common Business Core together with 3 elective courses in the field of International Business chosen with the assistance of the advisor.

Requirement for Major in Business Administration, Concentration in Finance:
The common Business Core together with, four additional courses in the field of Finance chosen with the assistance of the advisor.

Admission Requirements for a Minor in Business Administration: Application to the department after completion of the prerequisite courses. For acceptance to the minor, students must complete the three prerequisite courses with a C (2.0) or better average.

Requirements for a Minor: 27 credits as follows
Prerequisite courses (9 credits)

CS 120	Microcomputer Applications
EC 150	Statistics/or MA 150 Statistics
EC 110	Introduction to Microeconomics**/or EC 120** Introduction to Macroeconomics

Required courses (18 credits)

BA 200	Principles of Management and Organizational Behavior
BA 210	Fundamentals of Accounting I

Plus Four (4) additional BA courses

Business Administration Courses (Undergraduate)

For information on the Liberal Arts and Sciences Curriculum (LASC), see page 36

BA 100 Introduction to Business (only as a free elective)

Introduction to basic concepts related to business practices; includes examination of local, regional, and national organizations in the business world.
Offered every year. 3 credits.

BA 193 Special Topics in Business Administration for First-year Students

All "193" classes are approved for LASC but may vary by section. See current course listing for specific LASC area approval.

Introductory level course covering topics of special interest to first-year students. Offered only as a First-year Seminar.
Offered every year. 3 credits.

BA 200 Principles of Management and Organizational Behavior

Study of management practices and behavior in organizational settings. Emphasis on introduction to managerial principles, concepts and fundamentals.
Offered every year. 3 credits.

BA 210 Fundamentals of Accounting I

Principles, concepts, procedures, and techniques of financial accounting necessary to preparation, understanding, and interpretation of accounting information.
Offered every year. 3 credits.

BA 220 Fundamentals of Accounting II

Prerequisite: BA 210

Continuation of topics covered in BA 210.
Offered every year. 3 credits.

BA 230 Managerial Accounting

Prerequisite: BA 220

Analysis, interpretation and use of accounting data for effective managerial planning, control and decision-making.
Offered every year. 3 credits.

BA 250 Analytical Techniques in Business

Prerequisites: BA 200, BA 220, CS 120 or 121, MA 150 or EC 150

Identification and analysis of common business problems using proper quantitative techniques and standard business software.
Offered every year. 3 credits.

BA 300 Organization Theory

Prerequisite: BA 200

A macro examination of organizations utilizing current research findings based largely upon a systems/contingency framework, designed to improve organizational effectiveness.
Offered every 2 years. 3 credits.

BA 305 Organizational Dynamics

Prerequisite: BA 200

A study of behavior principles which underlie the prevention and solution of problems in both individual and group contexts.
Offered every year. 3 credits.

BA 306 Human Resource Management

Prerequisite: BA 305

An examination of human resource management including employment laws, recruiting/selection, training/development, and benefits/compensation administration.
Offered every 2 years. 3 credits.

BA 312 Operations Management I

Prerequisites: BA 200, CS 120, MA 150 or EC 150

Applied analysis of operations in service and production systems using quantitative models and calculus; inventory, work measurement, scheduling, quality control.
Offered every year. 3 credits.

BA 315 Quantitative Analysis and Information Systems

Prerequisite: CS 120

Introduction to basic quantitative analysis applied to management planning and operations systems. Includes business information systems and applications.
Offered every 3 years. 3 credits.

BA 316 Financial Management

Prerequisite: BA 220

Financial analysis, working capital management and basics of capital budgeting.
Offered every year. 3 credits.

BA 318 Principles of Marketing

Prerequisite: BA 200

Overview of the full range of activities involved in marketing, develops an understanding of marketing principles, problems, and processes.
Offered every year. 3 credits.

BA 320 Business Law I

Prerequisite: BA 200

Introduction to legal concepts as applied to the study of contracts, personal property, sales, and the Uniform Commercial Code.
Offered every year. 3 credits.

BA 321 Business Law II

Prerequisite: BA 320

Continuation of topics covered in BA 320. Study of laws of partnerships and corporations.
Offered every 3 years. 3 credits.

BA 327 Ethical Decision Making in Business

Prerequisites: BA 200, BA 210, BA 318

This course will identify, discuss and analyze ethical issues faced by business professionals and discuss approaches for resolving ethical dilemmas.
Offered every year. 3 credits.

BA 350 Business Information Systems and Applications

Prerequisite: BA 230 or BA 374, CS 120

Survey of automated business information systems and microcomputer applications with emphasis on business oriented software.
Offered every year. 3 credits.

BA 351 Managing eBusiness

Prerequisites: IT Minor: Core IT Courses • BA Major: Core BA Courses
Digitizing new forms of business organizations to create business-to-business partnerships, business-to-consumer relationships, pathways-to-profitability; Legal, Ethical, Social, Political and Global Issues.
Offered every 2 years. 3 credits

BA 355 Insurance and Risk Management

Prerequisite: BA 200
This survey course covers the identification and evaluation of risk, and techniques for the management of risk. Commercial and personal risks are studied from the points of view of the corporation, the individual, and the insurer. Areas of emphasis include commercial property, business liability, worker's compensation, automobile, life, health, disability, and income insurance.
Offered every year. 3 credits

BA 362 Accounting for Non-Profit Organizations

Prerequisite: None

Specialized area of accounting for unique requirements for non-profit organizations; includes analysis of budgeting, financial statements and other unique accounting requirements needed by management to assess the controls of a non-profit entity.
Offered every 2 years. 3 credits

BA 370 Intermediate Accounting I

Prerequisites: BA 210, BA 220

Accounting theory, principles, concepts, and procedures applied to balance sheet and income statement accounts. Presentation and interpretation of financial reports.
Offered every year. 3 credits.

BA 371 Intermediate Accounting II

Prerequisite: BA 370

Continuation of BA 370.
Offered every year. 3 credits.

BA 372 Advanced Accounting I

Prerequisite: BA 370

Mergers and consolidations; parent and subsidiary relationships; pooling of interests and purchases; fund accounting; price-level accounting.
Offered every year. 3 credits.

BA 373 Advanced Accounting II

Prerequisite: BA 372

Special advanced topics including review of Accounting Research Bulletins of the AICPA.
Offered every 2 years. 3 credits.

BA 374 Cost Accounting

Prerequisites: BA 200, BA 210, BA 220

Accounting for costs in business enterprises. Emphasis placed on fundamental principles including job order, process, and standard costs.
Offered every year. 3 credits.

BA 375 Federal Income Taxes I

Prerequisite: BA 370

A study of federal income taxation as applied to individuals.
Offered every year. 3 credits.

BA 376 Auditing

Prerequisite: BA 370

Basic auditing concepts and developments and their application to the examination, evaluation and reporting of financial data.
Offered every year. 3 credits.

BA 377 Federal Income Taxes II

Prerequisite: BA 375

Federal income taxes for corporations and partnerships.
Offered every 2 years. 3 credits.

BA 380 Negotiations

Prerequisites: BA 200, BA 210, BA 220, BA 305, EC 110, EC 120

This course focuses on effective negotiations, conflict management, and power and influence in organizational and other settings.
Offered every year. 3 credits.

BA 385 Leadership

Prerequisites: BA 200, BA 305

This course focuses on leadership theories, skills and applications. Self-assessment and reflection are important learning components of the course.
Offered every year. 3 credits.

BA 400 Management and Organizational Behavior I

Prerequisite: BA 305

Study of concepts, theory, research, and operational problems of organizational behavior; work groups and intergroup behavior models.
Offered every 3 years. 3 credits.

BA 401 Management and Organizational Behavior II

Prerequisite: BA 400

Continuation of topics covered in BA 400 with additional theory and case studies; behavioral science/systems approach is taken
Offered every 3 years. 3 credits.

BA 404 Corporate Finance

Prerequisite: BA 316

Advanced capital budgeting, capital structure, long-term financing decisions, dividend policy, computer modeling, comprehensive financial strategy cases.
Offered every 2 years. 3 credits.

BA 406 Trends in Marketing

Prerequisite: BA 318

Integrates all aspects of marketing theory through readings, case studies, class projects, individual projects, and computer simulation of marketing decisions.
Offered every 2 years. 3 credits.

BA 408 Operations Management II

Prerequisite: BA 312

Continuation of topics of BA 312 with focus on production planning and flow.
Offered every 3 years. 3 credits.

BA 409 Quantitative Analysis and Techniques I: Linear Models for Administration

Prerequisite: BA 315

Application of QA techniques to problems of linear programming, inventory models, and PERT-CPM networks.
Offered every 3 years. 3 credits.

BA 411 Supply and Value Chain Management

Prerequisite: BA 312

This course links all of the supply interacting organizations in an integrated two-way communications system to manage high quality inventory.
Offered every year. 3 credits.

BA 415 Investment Analysis

Prerequisite: BA 316

Survey of investment vehicles, including stocks, bonds, real estate, commodities, mutual funds, and collectibles. Modern portfolio and valuation theories.
Offered every year. 3 credits.

BA 416 Financial Markets and Institutions

Prerequisite: BA 316

Study of banks, investment banking, money markets, and the financial service industry as they affect long and short-term financing decisions.
Offered every 3 years. 3 credits.

BA 420 Marketing Research

Prerequisite: BA 318

Nature and scope of marketing research. Application of scientific methods, sources, and collection of data, reporting and evaluation.
Offered every year. 3 credits.

BA 422 Retailing

Prerequisite: BA 318

Demand analysis, consumer behavior, and planning and control of the merchandising functions; retailing as a career.
Offered every 3 years. 3 credits.

BA 424 Advertising Management

Prerequisite: BA 318

Advertising from a marketing manager's perspective. Consumer, industrial, and professional promotion strategies with execution and control activities.
Offered every 3 years. 3 credits.

BA 426 Consumer Behavior

Prerequisite: BA 318

The analysis of the consumer decision process as it affects marketing management decisions. Major factors of influence in this process will be studied including culture, social class, family, and reference groups.
Offered every 3 years. 3 credits.

BA 428 Business to Business Marketing

Prerequisite: BA 318

Explores business markets which account for more than half the economic activity globally.
Offered every 3 years. 3 credits.

BA 429 Integrated Marketing Communications

Prerequisite: BA 318

This course is designed for students who have an interest in increasing their knowledge of the marketing promotional process.
Offered every 3 years. 3 credits.

BA 430 Administrative Practices and Management

Prerequisite: BA 305

Overview and analysis of human conduct in work-organization settings.
Offered every 3 years. 3 credits.

BA 434 Management and Corporate Responsibility

Prerequisite: BA 200

The theoretical and practical relationships of corporate conflicts of interests, self-regulation, product liability, employee rights, etc. to management decisions.
Offered every year. 3 credits.

BA 440 International Business and Management

Prerequisites: BA 316, BA 318

Study and analyze the nature, structures and strategies of international/global businesses. Examine international markets, economic systems, value-chains and core competencies of a firm.
Offered every 2 years. 3 credits.

BA 445 Advanced Applications in Computerized Financial Reporting

Prerequisites: BA 370, BA 374, or BA 230

Hands-on experience with general ledger accounting software emphasizing advanced level accounting concepts and information reporting systems.
Offered every 2 years. 3 credits.

BA 446 Total Quality Management Systems

Prerequisite: BA 200

Examines the "quality" revolution sweeping American business in manufacturing, health care and other service industries both profit and non-profit.
Offered every year. 3 credits.

BA 474 Corporate Law

Prerequisite: BA 320

Corporate powers and corporate management. Designed for future corporate executives and accountants.
Offered every 3 years. 3 credits.

BA 480 The Legal Environment of Business

Prerequisite: BA 200

The impact of governmental regulation on business and its response will be evaluated by unique debate-type format.
Offered every year. 3 credits.

BA 481 Independent Study in Business Administration

Prerequisite: BA 200

Independent study in business administration, usually involving field work which is not an internship.
Offered every year. 1-6 credits.

BA 482 Selected Topics in Business Administration

Prerequisites: BA 305, BA 316, BA 318

Selection of topics of mutual interest to the student and faculty.
Offered every year. 1-6 credits.

BA 486 Internship in Business Administration

Prerequisites: BA 305, BA 316, BA 318

Practical experience in operations of business. Internships within co-operative firms with on-site supervision and evaluation.
Offered every year. 1-12 credits.

BA 490 Business Strategy and Policy

Prerequisites: BA 316, BA 318

Capstone course integrating information provided in the functional areas such as finance, marketing, general management, business legal environment.
Offered every year. 3 credits.

BA 492 Selected Topics in Health Administration

Prerequisite: BA 361

Selected topics in health administration of mutual interest to the student and faculty.
Offered every 3 years. 1-6 credits.

BA 493 Selected Topics in Government Administration

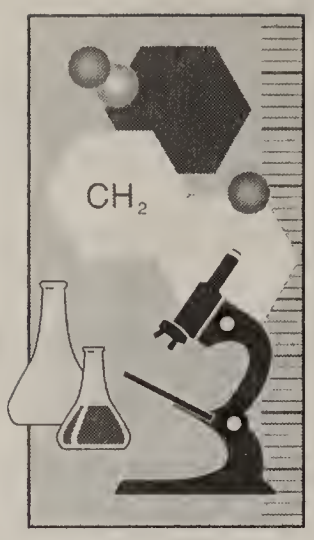
Prerequisite: BA 361

Recent developments in public administration of mutual interest to students and faculty.
Offered every 3 years. 1-6 credits.

BA 494 International Marketing

Prerequisites: EC 120, BA 318

With the rapid and continuous changes in a global environment we will examine the complex issues in international marketing faced by today's manager.
Offered every year. 3 credits.



Chemistry
Department of Chemistry

Faculty

Alan D. Cooper, Professor (1970), Department Chair
B.S., Tufts University; M.A., Ph.D., Boston University

Meghna Dilip, Assistant Professor (2008)
B.Sc., University of Madros, India; M.Sc., Anna University, India;
M.S., Ph.D., The University of Alabama

Anne M. Falke, Professor (1997)
B.A., University of Rhode Island; Ph.D., University of New Hampshire

John Goodchild, Associate Professor (2003)
B.S., Liverpool University; Ph.D., Liverpool University

Eihab Jaber, Assistant Professor (2006)
B.A., Hunter College of New York City; M.S, Ph.D., State University of New York, Stony Brook

Margaret E. Kerr, Professor (2000)
B.S., University of Maine; Ph.D., Wesleyan University

Jeffry C. Nichols, Assistant Professor (2006)
B.A., Texas Tech University; Ph.D., Rice University

The chemistry program provides education and training in chemistry to students who wish to pursue careers in chemistry, biotechnology, medicine, dentistry, allied health fields, science teaching, environmental science, materials science and engineering. Chemistry is considered the central science because it is required for full understanding of many other sciences as well as medicine. The Chemistry Department offers courses for general education as well as for majors in chemistry, biology, biotechnology, and nursing. As well as chemistry major and minor programs, the department also offers concentrations in nuclear medicine technology, biochemistry, environmental chemistry and bioinformatics. Majors in chemistry may also be eligible for the Accelerated Pharmacy Program with the Massachusetts College of Pharmacy and Health Sciences. The department has a chapter of the Gamma Sigma Epsilon National Honor Society in chemistry. The department offers opportunities for undergraduate research in organic chemistry, bioanalytical chemistry, nanoscience and molecular modeling. The Chemistry Department promotes green chemistry in its curriculum and research.

Requirements for a Major in Chemistry: 45 credits

Core: 33 credits

CH 120 & CH 121	General Chemistry I and II
CH 201 & CH 202	Organic Chemistry I and II (Lectures)
CH 203 & CH 204	Organic Chemistry Laboratory I and II
CH 301 & CH 302	Physical Chemistry I and II (Lectures)
CH 303	Physical Chemistry Laboratory I
CH 210	Chemical Analysis: An Introduction to Modern Methods
CH 475	Chemistry Seminar

Plus a minimum of 12 credits at the 300 level or above, at least one of which must be a lab course. Internships and Independent Study may contribute no more than 3 credits toward this requirement.

In addition, majors are expected to complete the following ancillary courses: MA 200 & MA 201 Calculus I and II, PY 221 & PY 222 General Physics I and II or PY 241 & PY 242 Physics I and II.

Recommended Schedule for the Four Year Chemistry Major

Year	Fall	Spring
1	CH120 General Chemistry I MA200 Calculus I (Preferred*) *or* PY221 General Physics I *Total credits: 8*	CH121 General Chemistry II MA201 Calculus II (Preferred*) *or* PY222 General Physics II *Total credits: 8*
2	CH201 Organic Chemistry I CH203 Organic Lab I CH210 Chemical Analysis PY241 Physics I (Preferred*) *or* MA 200 Calculus I *Total credits: 13*	CH202 Organic Chemistry II CH204 Organic Lab II PY242 Physics II (Preferred*) *or* MA 201 Calculus I *Total credits: 9*
3	CH301 Physical Chemistry I Upper level elective 1 *Total credits: 7-8*	CH302 Physical Chemistry II Upper level elective 2 *Total credits: 6-7*
4	CH303 Physical Chemistry lab Upper level elective 3 *Total credits: 5-6*	CH475 Chemistry Seminar Upper level elective 4 *Total credits: 5-6*

*It is recommended that students take Calculus in their first year and calculus-based Physics (PY241/2) in their second year. This gives the best preparation for physical chemistry in the third year. Students who need additional math before taking calculus may opt instead to take algebra-based General Physics (PY221/2) in their first year and Calculus in their second year.

Requirements for a Major in Chemistry, Concentration in Nuclear Medicine Technology: See program description under Biology.

Requirements for a Major in Chemistry, Concentration in Biochemistry:

All of the courses listed above as required for the major in chemistry plus

CH 410	Biochemistry I

and two of the following:

CH 240	Pharmacology
CH 330	Environmental Toxicology
CH 350	Medicinal Chemistry
CH 411	Biochemistry II
CH 415	Nucleic Acids Biochemistry
CH 425	Bioanalytical Chemistry
CH 453	Radiopharmaceuticals
BI 371	Molecular Biology
BI 378	Bioinformatics

Requirements for a Major in Chemistry, Concentration in Environmental Chemistry:

All of the courses listed above as required for the major in chemistry plus

CH 320	Environmental Chemistry

and two of the following:

CH 330	Environmental Toxicology
CH 410	Biochemistry I
CH 425	Bioanalytical Chemistry
CH 470	Instrumental Analysis
GS 250	Hydrology
GS 335	Hydrogeology

Requirements for a Major in Chemistry and to meet the prerequisites for the Accelerated Pharmacy Program with Massachusetts College of Pharmacy and Health Sciences:

(Please see program description on page 56)

All of the courses listed for the chemistry major core, plus:

BI 140	Introduction to Organismal Biology
BI 141	Introduction to Cellular and Molecular Biology
PY 221	General Physics I
MA 200	Calculus
MA 201	Calculus II
BI 204	Microbiology
PY 22	General Physics I
PY 222	General Physics II

Requirements for a Major in Chemistry, Concentration in Bioinformatics:

The purpose of this interdisciplinary concentration is to prepare students to enter computer-intensive fields of bioinformatics, computational biology, computational chemistry and molecular modeling including genomics and proteomics. With the advent of the Human Genome Project, an explosion of genomics information has occurred, and databases such as GenBank and EMBL have grown at a rate that now requires storage, organizing and indexing of the information. Questions of gene expression have led to computational biology, the process of analyzing genomic sequences and to the field of proteomics, the understanding of protein structure and function. The information obtained by computational biology and computational chemistry is used in the design of new drugs to treat a variety of diseases. Major drug and biotechnology companies are seeking people trained in bioinformatics.

In addition to the requirements for the Major in Chemistry:

BI 201	Cell Biology or BI 203 Genetics+	4
BT 378	Bioinformatics	4
CS 140	Introduction to Programming	4
CS 242	Data Structures	3
CS 282	UNIX Systems Programming	3
CS 265	Database Applications	3

One course from:

BI 201	Cell Biology	4
BI 203	Genetics+	4
BI 204	Microbiology	4
BI 306	Developmental Biology+	4
BI 353	Tree of Life: Evolutionary Systematics	4
BI 371	Molecular Biology+	4
BI 375	Virology+	4
BT 376	Biotechnology	4

+requires additional prerequisite courses beyond those required for the major and concentration.

Chemistry Honors Program:

The Chemistry Honors Program is an upper-level program designed to challenge students majoring in chemistry to excel in their course work, to encourage them to extend their program beyond the basic requirements of the major, and to reward and recognize them for so doing.

Students would need to complete the following courses in chemistry:

CH 120 & CH 121	General Chemistry I and II
CH 201 & CH 202	Organic Chemistry I and II (Lectures)
CH 203 & CH 204	Organic Chemistry Laboratory I and II
CH 210	Chemical Analysis: An Introduction to Modern Methods
CH 301 & CH 302	Physical Chemistry I and II (Lectures)
CH 303 & CH 304	Physical Chemistry Laboratory I and II
CH 340	Advanced Inorganic Chemistry
CH 410	Biochemistry
CH 470	Instrumental Analysis
CH 475	Chemistry Seminar

plus at least 3 semester hours of research under CH 490: Independent Study leading to a thesis or 3 semester hours of internship under CH 480: Chemistry Internship.

In addition, students would be exected to complete the ancillary requirements for the chemistry major in calculus and physics

Requirements for a Minor in Chemistry: 18 credits

CH 120 & CH 121 General Chemistry I and II

Ten (10) additional credits in 200- or higher level chemistry courses

Chemistry Courses (Undergraduate)

For information on the Liberal Arts and Sciences Curriculum (LASC), see page 36

CH 105 Nature of Chemical Change

The properties of matter viewed through simple reactions of familiar substances. Two lectures and a two-hour laboratory per week.
Offered every 3 years. 3 credits.

CH 106 Paper or Plastics?

LASC—Natural Systems and Processes

Students will study modern issues related to chemistry. These will include sustainability, green chemistry, climate change and the ozone layer.
Offered every year. 3 credits.

CH 110 Introduction to General, Organic, and Biochemistry I

LASC—Natural Systems and Processes

An introductory survey of chemistry. Topics include atomic structure, chemical bonding and reactions, acid-base theory, introduction to organic chemistry. Three lecture hours and three laboratory hours per week.
Offered every year. 4 credits.

CH 111 Introduction to General, Organic, and Biochemistry II

LASC—Natural Systems and Processes

Prerequisite: CH 110

Continuation of CH 110. Topics include functional groups and reactions of organic compounds and topics in biochemistry such as carbohydrates, proteins, lipids, and metabolic pathways. Three lecture hours and three laboratory hours per week.
Offered every year. 4 credits.

CH 112 Survey of Chemistry

LASC—Natural Systems and Processes

Chemical and physical properties of inorganic, organic and biochemical compounds with implications for human health and the environment. Ancillary course—Nursing Program. Four lecture hours and two laboratory hours per week.
Offered every semester. 5 credits

CH 120 General Chemistry I

Modern survey of chemistry. Topics include chemical equations, properties of gases, atomic structure, periodic table, chemical bonding, chemistry of carbon. Three lecture hours and three laboratory hours per week. CH 120 and 121 provide the foundation for further courses in chemistry.
Offered every year. 4 credits.

CH 121 General Chemistry II

Prerequisite: CH 120

Continuation of CH 120. Topics include principles of thermodynamics, acids and bases, reaction rates, oxidation-reduction reactions, and electrochemistry. Three lecture hours and three laboratory hours per week.
Offered every year. 4 credits.

CH 191 Selected Topics

A lecture or laboratory course designed to introduce a selected topic(s) of interest.
Offered every 3 years. 1-4 credits.

CH 193 Special Topics in Chemistry for First-year Students

All "193" classes are approved for LASC but may vary by section. See current course listing for specific LASC area approval.

Introductory level course covering topics of special interest to first-year students. Offered only as a First-year Seminar.
Offered every year. 3 credits.

CH 201 Organic Chemistry I (Lectures Only)

Prerequisites: CH 120, CH 121

Structure, reactions, mechanisms, and stereochemistry of the alkanes, alkenes, alkynes, dienes, alkyl halides. Introduction to aromatic chemistry.
Offered every year. 3 credits.

CH 202 Organic Chemistry II (Lectures Only)

Prerequisite: CH 201

Continuation of CH 201. Reactions and mechanisms of aromatic chemistry; structures and reactions of alcohols, ethers, carboxylic acids, aldehydes, ketones.
Offered every year. 3 credits.

CH 203 Organic Chemistry Laboratory I

Prerequisite or Corequisite: CH 201

Techniques of preparation, purification, and identification of aliphatic compounds. One four-hour laboratory per week.
Offered every year. 2 credits.

CH 204 Organic Chemistry Laboratory II

Prerequisite: CH 203, Prerequisite or Corequisite: CH 202

Application of basic and more advanced techniques to increasingly complicated synthetic problems. One four-hour laboratory per week.
Offered every year. 2 credits.

CH 210 Chemical Analysis: An Introduction to Modern Methods

Prerequisites: CH 120, CH 121

Introduction to modern methods of chemical analysis including gravimetry, acid-base and redox titrations, potentiometry, uv-visible and atomic absorption spectrophotometry, and gas and HPLC chromatography. Two lecture hours and six laboratory hours per week.
Offered every year. 4 credits.

CH 220 Chemistry of Energy and the Environment

Prerequisites: CH 120, CH 121

Chemistry of the environment; chemical aspects of energy; and the environmental aspects of energy production and use.
Offered every 3 years. 3 credits.

CH 240 Pharmacology

Prerequisites: CH 110, CH 111, BI 161, BI 162

Modes of action of some of the major categories of drugs, their biological activities and responses within the human system.
Offered every year. 3 credits.

CH 301 Physical Chemistry I (Lectures Only)

Prerequisites: CH 120, CH 121, MA 200, MA 201

Study of quantum theory, chemical bonding, spectroscopy, molecular structure and molecular modeling. Three lecture hours and one hour recitation per week.
Offered every year. 4 credits.

CH 302 Physical Chemistry II (Lectures Only)

Prerequisite: CH 301

Continuation of CH 301. Study of first, second and third laws of thermodynamics, and of kinetics, chemical solution and phase equilibria. Three lecture hours per week.
Offered every year. 3 credits.

CH 303 Physical Chemistry Laboratory I

Prerequisite or Corequisite: CH 301, Prerequisite: CS 120 or demonstrated equivalence

Laboratory deals with methods of physical measurement of chemical systems and their application to the determination of molecular structure, spectroscopy and thermodynamic data. One four hour laboratory per week.
Offered every year. 2 credits.

CH 304 Physical Chemistry Laboratory II

Prerequisite or Corequisite: CH 302

Continuation of CH 303; project-oriented laboratory dealing with the study of reaction rates and mechanisms, electrochemistry, and molecular properties. One four hour laboratory per week.
Offered every 2 years. 2 credits.

CH 320 Environmental Chemistry

Prerequisites: CH 120, CH 121 and CH 111 or CH 201

Chemistry of the atmosphere, soil, and natural water systems, air and water pollution water treatment, hazardous wastes and pollution control.
Offered every 2 years. 3 credits.

CH 330 Environmental Toxicology

Prerequisites: CH 120, CH 121, CH 111, BI 101

Topics include the pharmacological and biochemical properties of toxins and the effects of toxins on human health, including assessment of risk(s).
Offered every 3 years. 3 credits.

CH 335 Green Chemistry

Prequisites: CH 120, 121

This course will provide an understanding of the fundamentals of green chemical design that either eliminates or reduces the use or generation of hazardous substances. Three hours of lecture/lab per week.
Offered every year. 3 credits.

CH 340 Advanced Inorganic Chemistry

Prerequisites: CH 120, CH 121, CH 201 or CH 202 recommended

This course is a survey of the chemistry of the inorganic elements, focusing on the relationship between electronic structure , physical properties, and reactivity across the periodic table.
Offered every 2 years. 3 credits.

CH 350 Medicinal Chemistry

Prerequisites: CH 201, CH 202

A study of how drugs work and the science and technology of modern drug discovery illustrated with case histories. Three lecture hours per week.
Offered every 3 years. 3 credits.

CH/PY 360 Introduction to Materials Science

Prerequisites: CH 120, CH 121, and either PY 221, PY 222 or PY 241, PY 242

Physical structure of solids. Electrical, magnetic, thermal, and optical properties of solids, liquids, and soft matter. Structure-property relationships in materials.
Offered every year. 3 credits.

CH/BI 410 Biochemistry I

Prerequisites: CH 201, Prerequisite or Corequisite: CH 202

The chemistry of proteins, nucleic acids, carbohydrates, and lipids; enzymes, biological oxidations; and correlations in intermediary metabolism. Three lecture hours and three laboratory hours per week.
Offered every year. 4 credits.

CH/BI 411 Biochemistry II

Prerequisite: CH/BI 410

The generation and storage of metabolic energy; biosynthesis of macromolecular precursors, DNA, RNA, and protein; and biochemical regulation. Three lecture hours per week.
Offered every 3 years. 3 credits.

CH 415 Nucleic Acids Biochemistry

Prerequisites: CH 201, CH 202; CH 410 recommended

Structure and function of nucleic acids in prokaryotes and eukaryotes. Topics include nucleotide metabolism, replication, repair, and recombinant DNA techniques.
Offered every 3 years. 3 credits.

CH 425 Bioanalytical Chemistry

Prerequisites CH 201, CH 202 and CH 203

Separation, identification and analysis of biological compounds using modern biochemical methods. Two lecture hours and six laboratory hours per week.
Offered every 3 years. 4 credits.

CH/BI 453 Radiopharmaceuticals

Prerequisite: Consent of NMT coordinator

Fundamental concepts of radiopharmaceutical production including basic radiochemistry.
Offered every year. 4 credits.

CH 455 Special Topics in Chemistry

Prerequisites: 18 credits in Chemistry and consent of Department

Exploration of frontier areas of chemistry, including chemical kinetics, quantum chemistry, polymers, spectroscopy, materials science, environmental, bioinorganic and medicinal chemistry.
Offered every 3 years. 3-4 credits.

CH/BI 465 Clinical Nuclear Medicine Technology I

Prerequisite: Consent of NMT coordinator

Why a specific test is indicated; which radiopharmaceutical is preferred; and how the basic image appearance and/or numerical data may be altered by pathological states.
Offered every year. 4 credits.

CH/BI 466 Clinical Nuclear Medicine Technology II

Prerequisite: Consent of NMT coordinator

Case presentations using formulas, charts, tables, and calculations to arrive at examination parameters such as amount of dose, number of counts, speed of instrument, etc.
Offered every year. 4 credits.

CH 470 Instrumental Analysis

Prerequisites: CH 120, CH 121, together with CH 210 or CH 301 or two years of analytical laboratory experience

Advanced level survey of instrumental methods of separation and analysis including spectrophotometry, potentiometry, polarography, and chromatography. Laboratories are project-oriented. Two lecture hours and six laboratory hours per week.
Offered every 2 years. 4 credits.

CH 475 Chemistry Seminar

Prerequisite: Consent of department

Contemporary developments in chemistry, review of technical literature in both print and electronic format, preparation and presentation of technical paper.
Offered every year. 2 credits.

CH 480 Chemistry Internship

Prerequisite: Consent of department

Project completed at an institution other than Worcester State by a student with a non-Worcester State sponsor and Worcester State liaison.
Offered every year. 1-6 credits.

CH 485 Directed Study in Chemistry

Prerequisites: 18 credits in Chemistry and Consent of Department

Designed for the undergraduate who wishes to undertake individualized study in chemistry on topic mutually agreeable to student and instructor.
Offered every year. 3-4 credits.

CH 490 Independent Study in Chemistry

Prerequisite: Consent of department

Advanced independent work on a research problem in chemistry mutually agreed to by the student and the instructor.
Offered every year. 1-6 credits.

CH 495 Fundamentals of Chemical Research

Prerequisite: Consent of instructor required

Students will conduct research on an assigned project with individual guidance and supervision from the instructor. One lecture hour and four laboratory hours per week.
Offered every semester. 3 credits.

Communication
Department of Communication

Faculty

Julian Berrian, Assistant Professor (2006)
B.A., University of Maryland; M.F.A., Temple University

Donald F. Bullens, Associate Professor (1986), Department Chair
B.S. Ed., M.Ed., Worcester State College

Alta Carroll, Associate Professor (1998)
B.A., Texas A & M University; M.S., Columbia University; Ph.D., Purdue University

Carlos Fontes, Professor (1996)
B.A., Escola Superior de Meios de Communicacao Social, Lisbon;
M.A., Ph.D., University of Massachusetts

Julie D. Frechette, Professor (1999)
B.A., University of New Hampshire; M.A., Ph.D., University of Massachusetts

Suzanne Gainer, Associate Professor (2001)
B.A., St. Vincent College; M.F.A., Rhode Island School of Design

Emanuel E. Nneji, Associate Professor (2005)
B.A., University of Nigeria; M.S., University of Lagos; Ph.D., University of South Carolina

Barbara Zang, Professor (2002)
B.S., University of Missouri; M.A., University of Toledo; M.A., University of Missouri;
Ph.D., Indiana University

The Department of Communication at Worcester State promotes the critical understanding of communication in a culturally diverse and technological world. Grounded on methods of inquiry, the program engages students in the theory and practice of mass communications and intercultural communication. Our goal is to educate students to assess the role of communication in society, and to be proficient communicators and competent users of current technologies. Representing diverse areas of expertise, the faculty emphasizes contemporary issues and media ethics from a global perspective.

Courses focused on media literacy, criticism, production and special topics, prepare students for careers in the field and for further study at the graduate level. Facilities include computer labs, a state-of-the-art television studio, editing suites, electronic field production video equipment and photographic dark rooms.

In addition to course work, students in their junior and senior year who have a GPA of 2.7 or higher are encouraged to apply for media internships with companies and nonprofit organizations that have a long-standing relationship with the Department. Majors have the opportunity to become members of WSTS-TV 11 and WSCW radio station. The Department sponsors internships and photographic exhibits; in addition, many of our students participate in off-campus communication-related competitions and activities.

Requirements for a Major in Communication 36 credits for the Media Theory and Public Communication concentrations and 39 credits for the concentration in Media Production.

Core Courses

CM 100	Introduction to Mass Communication
CM 105	Media Writing ***or***
CM 200	Writing for Communication
CM 110	Public Speaking
CM 363	Visual Media Literacy
CM 384	Media Criticism

One of the Following Courses

CM/WO 213	Gender and Media
CM/WO 350	Intercultural Communication
CM/WO 390	Alternative Communication

Elective Courses: 18 credits in Communication

Requirements for the Concentration in Media Production. In addition to the six core courses, students will have to complete the following:

TRACK A: Print Media

Required Courses for this Track

CM 150	Photography I ***or***
CM 151	Introduction to Digital Photography
CM 160	Introduction to Digital Imaging
CM 231	Photography II
CM 244	Graphic Design

Elective Courses: 9 credits in Communication

TRACK B: Broadcast Media

Required Courses for this Track

CM 259	Television Production I
CM 260	Introduction to Video
CM 366	Scriptwriting
CM 396	Video Editing

Elective Courses: 9 credits in Communication

Requirements for the Concentration in Public Communication. In addition to the six core courses, students will have to complete the following:

Required Courses for Concnetration (4 courses)

CM 180	Introduction to Advertising
CM 240	Public Relations Principles and Practices
CM 340	Public Relations Strategy ***or***
CM 370	Advertising Production
CM 400	Public Relations Research ***or***
CM 405	Mass Communication Research

Elective Courses: 6 credits in Communication

Requirements for the Concentration in Media Theory. In addition to the six core courses, students will have to complete the following:

Required Courses for Concentration

CM 301	Communication Theory
CM 404	Independent Study in Media*
CM 405	Mass Communication Research

Elective Courses: 9 credits in Communication

Requirements for a Minor in Communication 18 credits including

CM 100	Introduction to Mass Communication
CM 110	Public Speaking

Plus any 4 electives in Communication

Requirements for a Minor in Communication Education 18 credits including

CM 100	Introduction to Mass Communication
CM 110	Public Speaking
CM/WO 350	Intercultural Communication
CM 384	Media Criticism ***or***
CM 363	Visual Media Literacy

Plus any 2 electives in Communication

Worcester State/Clark University COPACE BS/MSPC Degree Program

Through a COPACE cooperative program between Worcester State and Clark University, qualified Communication Majors and Minors during their senior year can work towards a Master of Science in Professional Communication, while concurrently completing their Baccalaureate degree.

Communication Courses

For information on the Liberal Arts and Sciences Curriculum (LASC), see page 36

CM 100 Introduction to Mass Communication

LASC—Human Behavior and Social Processes; Thought, Language and Culture

An integrated examination of the history, theory, structure, process, and effects of each of the mass media.
Offered every year. 3 credits.

CM 101 Library Skills for Research

The course covers the basics of library research: search strategies and how to use both print and automated research tools.
Offered every 3 years. 1 credit.

CM 103 Survey of Radio and Television

LASC—Human Behavior and Social Processes; Thought, Language and Culture

Perspectives on the development of radio and television technologies, programming, regulation, and economic support, and their impact.
Offered every 2 years. 3 credits.

CM 105 Media Writing

Prerequisite: CM 100

An introduction to various types of mass media writing, from print and broadcast to public relations, advertising and online media.
Offered every year. 3 credits.

CM 106 Communication and the Internet

Focuses on the social and educational implications of the Internet and the application of its various search tools as a means to communication.
Offered every 2 years. 3 credits.

CM 110 Public Speaking

LASC—Thought, Language and Culture

Essentials of speech production and speech writing for large and small groups. Classroom practice in delivering various types of speeches.
Offered every year. 3 credits.

CM 150 Photography I

Covers the basic theory and practice of 35mm B/W photography, including camera handling, film processing, light meters, printing and picture content.
Offered every year. 3 credits.

CM 151 Introduction to Digital Photography

LASC—Creative Arts

Techniques and aesthetics of digital photography. Introduction to the operation of SLR digital cameras and the computer as digital darkroom.
Offered every year. 3 credits.

CM 160 Introduction to Digital Imaging

This course introduces students to the procedures, techniques and concepts of basic digital imaging. In the course students learn to use the computer as a tool for visual image making.
Offered every year. 3 credits.

CM 180 Introduction to Advertising

An overview of the advertising including the historical and current roles of advertising in our economy, basic advertising concepts and methods, and social and cultural effects.
Offered every 2 years. 3 credits.

CM 191 Special Topics in Communication

An introductory level course in communications on current or specialized topics.
Offered every year. 3 credits.

CM 193 Special Topics in Communication for First-year Students

All "193" classes are approved for LASC but may vary by section. See current course listing for specific LASC area approval.

Introductory level course covering topics of special interest to first-year students. Offered only as a First-year Seminar.
Offered every year. 3 credits.

CM 199 Interpersonal Communication in Media

Study of the communications process as it relates to the production of material in various media, including video, audio, film.
Offered every 2 years. 3 credits.

CM 200 Writing for Communication

Development of writing, research, and critical thinking skills associated with the discipline of communication. Assignments focus on contemporary communication issues.

Offered every year. 3 credits.

CM 204 Analysis of News

This course introduces students to the conventions, ethical issues and the economic, political and socio-cultural forces that affect mainstream and alternative journalism today

Offered every 2 years. 3 credits.

CM 205 Reporting for Media

This course refines interviewing skills and enables students to develop evidence from documentary sources to create stories for converging media.
Offered every year. 3 credits.

CM 206 Digital Storytelling

Prerequisite: CM 100

Use of personal narrative to construct stories using audio, still and video images, and music tracks in digital format.
Offered every year. 3 credits.

CM 210 Special Topics in Communication

This is a mid-level communication course focused on current specialized topics not covered by the department's curriculum
Offered every 2 years. 3 credits.

CM/WO 213 Gender and Media

LASC—Human Behavior and Social Processes; Thought, Language and Culture

Prerequisite: CM 100

This course will explore how difference is socially constructed along gender lines and will explore the intersections of gender, identity, power and media representation.
Offered every 2 years. 3 credits

CM 231 Photography II

Prerequisite: CM 150

Expands basic skills in camera craft, film and print processing and presentation. Instruction and practice in the Zone System, theory and practice of advanced exposure and film development control. Emphasis on photographic composition and efficiency in designing purposeful photographic statements.
Offered every year. 3 credits.

CM 240 Principles of Public Relations

Prerequisite: CM 100

An overview of public relations principles in business, politics and society.
Offered every 2 years. 3 credits.

CM 241 Understanding Movies

LASC—Creative Arts; Thought, Language and Culture

An introduction to the aesthetics and critical theories of film as an artistic medium of communication through critical observation of classic and contemporary movies.
Offered every year. 3 credits.

CM 244 Graphic Design

Through hands-on projects, students will learn formal elements of design, principles of typography, idea generation, and issues of responsible design as applied to print media.
Offered every year. 3 credits.

CM/CS 247 Introduction to Multimedia

Prerequisite: Introduction to computers or experience

Use of computers to create digitized video, images, sound, animation, and text for CD-ROM, the internet, television and other productions.
Offered every 2 years. 3 credits.

CM/MU 250 Music of the Cinema: Spectacle, Splendor, and Spielberg

An introduction to the role, impact, and importance of music in motion pictures from silent movies through contemporary film.
Offered every 2 years. 3 credits.

CM 259 Television Production I

LASC—Creative Arts

Basics of studio production including visualization and sequencing of short scripts, sound, graphics, lighting, and technical direction.
Offered every year. 3 credits.

CM 260 Introduction to Video

LASC—Creative Arts

A beginning course in video program production, using lightweight and portable equipment.
Offered every year. 3 credits.

CM 270 Media and Globalization

This course examines the emergence of global media and its impact on the development of a global world.
Offered every 2 years. 3 credits.

CM 301 Communication Theory

Prerequisite: CM 100

Examines the nature and origins of symbol systems, the make up of audiences, the effects of mass media, and concomitant research.
Offered every 3 years. 3 credits.

CM 305 Media for Non-profits

Prerequisites: CM 100, CM 105

This course covers the writing, research, planning and problem solving necessary to provide media service for a non-profit client.
Offered every 2 years. 3 credits.

CM 340 Public Relations Strategy

Prerequisite: CM 240

Case study approach to public relations practices, problems, opportunities, and application to practical situations
Offered every 2 years. 3 credits.

CM 345 Media and Democracy

Prerequisite: CM 100

This course aims to develop an understanding of democracy's requirements and the role of the media in relation to democracy.
Offered every 2 years. 3 credits.

CM/WO 350 Intercultural Communication

Prerequisite: CM 100

Introductory communication theory and practice across cultural groups defined by race, ethnicity, gender, religion, age, nationality, politics and economics.
Offered every 2 years. 3 credits.

CM 359 Documentary Production

Prerequisite: CM 260

This course engages students in a semester-long production of documentary and introduces key concepts of documentary theory.
Offered every 2 years. 3 credits.

CM 360 Television Production II

LASC—Creative Arts

Prerequisites: CM 259 or CM 260

The student will gain experience in the areas of electronic videotape editing, technology of television engineering, creative video, remote production and other advanced techniques. Primary emphasis is on the production of programs utilizing advanced techniques.
Offered every year. 3 credits.

CM 363 Visual Media Literacy

Prerequisite: CM 100

An introduction to principles of visual media literacy and their application in media production and perception.
Offered every year. 3 credits.

CM 366 Scriptwriting

Prerequisite: CM 100

Creating scripted material for the electronic media. All types, styles, and formats will be covered.
Offered every 2 years. 3 credits.

CM 370 Advertising Production

Prerequisite: CM 100, CM 180

Applied skills in advertising including the creation of advertisements in different media, advertising strategies, media schedules and campaign plans.
Offered every 2 years. 3 credits.

CM/CS 374 Advanced Multimedia

Prerequisite: CM/CS 247 or equivalent

Project-based approach using computers to design multimedia productions to integrate image, sound, and text. Emphasis on creative conceptualization, interface design, and project management.
Offered every 2 years. 3 credits.

CM 384 Media Criticism

LASC—Human Behavior and Social Processes; Thought, Language and Culture

Prerequisite: CM 100

Evaluation and analysis of film, television, theatre, and radio performances, development of intelligent, ethical standards of judgment.
Offered every year. 3 credits.

CM/WO 390 Alternative Communication

Prerequisite: CM103

This course introduces students to the theory and practice of alternative communication and its relationship with culture and politics.
Offered every 3 years. 3 credits.

CM 396 Video Editing

LASC—Creative Arts

Prerequisite: CM 259 or CM 260

The principles and procedures of editing one-half-inch and three-quarter-inch videotape using manual and electronic techniques and equipment. Students will produce short, edited programs.
Offered every 2 years. 3 credits.

CM 400 Public Relations Research

Prerequisite: CM 240

Study of public relations research concepts, and application for planning, communication and evaluation.
Offered every 2 years. 3 credits.

CM 404 Independent Study in Media

Prerequisite: CM 100

Permits advanced students to investigate topic of special interest through research or production of a project. Periodic consultations with advisor.
Offered every 2 years. 1-6 credits.

CM 405 Mass Communication Research

Survey of methods and applications of research in media fields, including advertising, public relations, journalism, new media and political communication.
Offered every year. 3 credits.

CM 410 Seminar: Topics in Communication

This course engages students in advanced examination of emerging communication topics and of topics in a faculty's area of expertise.
Offered every 2 years. 3 credits.

CM 435 Media Internship

Prerequisite: Two relevant communications courses and consent of department provides opportunity to advanced students to increase experience through internship with sponsoring community organization, institution, or business under appropriate supervision.
Offered every year. 3-12 credits.

Communication Sciences and Disorders

Department of Communication Sciences and Disorders

Faculty

Keith N. Darrow, Associate Professor (2010)
B.S., University of Massachusetts; M.S., Brooklyn College; Ph.D., Massachusetts Institute of Technology and Harvard Medical School

Linda S. Larrivee, Professor (2000), Department Chair
B.S., M.S., Worcester State College; Ph.D., University of Kansas

Kenneth S. Melnick, Associate Professor (2004)
B.A., University of Michigan; M.A., University of Cincinnati; Ph.D., Vanderbilt University

Susanna E. Meyer, Professor (1997)
B.A., M.S., Ph.D., University of Pretoria, South Africa

Maryann H. Power, Professor (1979)
B.A., University of Massachusetts; Ed.M., Salem State College; Ed.D., Clark University

Roger L. Towne, Associate Professor (2004)
B.A., M.A., University of Montana; Ph.D., Southern Illinois University (Carbondale)

Clinic Staff:

Joan E. Butterworth, Clinic Supervisor (2008)
B.S., Northeastern University; M.S., Perdue University

Lee A. Cordaro, Clinic Supervisor (2005)
B.S., M.S., Worcester State College

Ann T. Veneziano, Clinic Director (1988)
B.S., Boston College; M.S., Syracuse University

The goal of the Department of Communication Sciences and Disorders is to facilitate an understanding of normal human communication processes as well as disorders in communication that can develop or be acquired. Communication is defined as the sharing of needs, experiences, ideas, thoughts, and feelings with other people through such modalities as talking, listening, writing, reading, and nonverbal means. Undergraduate students in Communication Sciences and Disorders begin by learning the scientific foundations of the normal processes of communication. This scientific basis is followed by an introduction to the disorders that can occur in speech, language, and/or hearing in children and adults.

The undergraduate program in Communication Sciences and Disorders immerses students in an academically rigorous and challenging course of study. It provides students with a strong preparation for graduate study in many fields including Speech-Language Pathology

and Audiology. In addition, a CSD baccalaureate degree prepares students to pursue such opportunities as speech-language pathology assistants, audiology assistants, and applied behavioral analysis technologists. Overall, the major provides students with a range of abilities that will help them in either graduate school or in the workplace. These skills include interpersonal, critical thinking, problem-solving, scientific reasoning, writing, and presentation abilities.

A baccalaureate degree in Communication Sciences and Disorders forms an excellent basis for graduate study in many areas, primarily health-related and education. In particular, students are prepared for graduate school in speech-language pathology, audiology, or speech and hearing science. Speech-language pathologists work with a wide range of human communication and its disorders. They evaluate, diagnose, and treat speech, language, cognitive-communication, and swallowing disorders in individuals of all ages, from infants to the elderly. Audiologists are experts in the non-medical management of the auditory and balance systems. They specialize in the study of normal and impaired hearing, prevention of hearing loss, identification and assessment of hearing and balance problems, and rehabilitation of people with hearing and balance disorders.

To become a speech-language pathologist or audiologist, one must have a graduate degree. Students considering a profession in speech-language pathology or audiology should have an interest in helping people and the sensitivity, warmth, and perspective to be able to interact with people who have a communication problem. Scientific aptitude, patience, emotional stability, tolerance, resourcefulness, imagination, and persistence are necessary. In addition, students should have a commitment to work cooperatively with others and the ability to communicate well in both oral and written forms.

Requirements for a Major: 42–44 credits

CD 100	Introduction to Human Communication and its Disorders
CD 103	Language Science
CD 110	Anatomy and Physiology of Speech and Hearing
CD 115	Normal Development of Speech and Language
CD 201	Hearing Science
CD 202	Speech Science
CD 205	Phonetics
CD 301	Directed Observations
CD 305	Introduction to Audiology
CD 310	Language Disorders
CD 320	Speech Disorders
CD 400	Introduction to Aural Rehabilitation
CD 401	Advanced Directed Observations
CD 410	Clinical Skills
CD 430	Neuroscience for Communication Sciences and Disorders
CD 475	Selected Topics in Communication Sciences and Disorders

The minimum grade students may be allowed to obtain in any prerequisite course before being allowed to take the subsequent courses in the CSD major is C–. In addition, the maximum number of times students may take a course in the CSD major is twice (i.e., one repetition).

Students will be screened for adequate speech and language patterns and recommendations made for therapy when appropriate.

Out of department requirements include: one biological science, one physical science, one math (college algebra or higher level), one statistics, and two social sciences of which one must be in child development. Communication Sciences and Disorders advisors will help students choose appropriate courses in these areas.

Requirements for a Minor: 18 credits within the department; 15 credits must include:

CD 100	Introduction to Human Communication and its Disorders
CD 103	Language Science
CD 110	Anatomy and Physiology of Speech and Hearing
CD 115	Normal Development of Speech and Language
CD 205	Phonetics

For students taking prerequisites for the Speech-Language Pathology graduate program, two additional courses, CD 201 Hearing Science and CD 202 Speech Science, must be completed. Grades in these minor courses are heavily weighted in consideration for graduate admission.

Communication Sciences and Disorders Courses (Undergraduate)

For information on the Liberal Arts and Sciences Curriculum (LASC), see page 36

CD 100 Introduction to Human Communication and its Disorders

LASC—Human Behavior and Social Processes; Individual and Community Well-being

Nature and causes of organic and functional speech, language and hearing problems, general awareness of diagnostic and therapeutic techniques.
Offered every year. 3 credits.

CD 103 Language Science

LASC—Thought, Language, and Culture

Introduction to basic linguistic knowledge including theoretical areas of pragmatics, semantics, syntax, morphology and phonology in a multicultural perspective.
Offered every year. 3 credits.

CD 110 Anatomy and Physiology of Speech and Hearing

LASC—Natural Systems and Processes

Normal anatomy and physiology of the speech and hearing mechanism with emphasis on respiration, phonation, articulation, audition, and neurology.
Offered every year. 3 credits.

CD 115 Normal Development of Speech and Language

An in-depth coverage of the normal acquisition and development of speech and language, including phonology, morphology, syntax, semantics and pragmatics.
Offered every year. 3 credits.

CD 120 Introduction to Sign Language

Sign language systems and fingerspelling with emphasis on American Sign Language vocabulary and word order.
Offered every year. 3 credits.

CD 193 Special Topics in Communication Sciences and Disorders for First-year Students

All "193" classes are approved for LASC but may vary by section. See current course listing for specific LASC area approval.

Introductory level course covering topics of special interest to first-year students. Offered only as a First-year Seminar.
Offered every year. 3 credits.

CD 201 Hearing Science

Prerequisite: CD 110, Accuplacer Code≥ 3

Basic concepts/information needed to study audiology and aural rehabilitation: physical acoustics, physiological acoustics, and psycho-acoustics.
Offered every year. 3 credits.

CD 202 Speech Science

Prerequisites: CD 110, CD 205, Accuplacer Code≥ 3

An exploration of the psycho-acoustic aspects of speech with an emphasis on laboratory analysis, including spectrography.
Offered every year. 3 credits.

CD 205 Phonetics

The study of English speech sounds, their articulation and acoustic characteristics, and speech transcription using the International Phonetic Alphabet.
Offered every year. 3 credits.

CD 301 Directed Observations

Prerequisite: Concurrent with CD 310 or CD 320

Beginning aspects of clinical issues including objectives, rapport, and timing. Therapy/diagnostic sessions will be viewed and highlighted by instructor.
Offered every year. 1 credit.

CD 305 Introduction to Audiology

Prerequisite: CD 201

Introduction to audiometric testing techniques and interpretation as related to ear pathologies.
Offered every year. 3 credits.

CD 307 Intermediate Sign Language

Prerequisite: CD 120

Students gain more facility in sign usage. Receptive and expressive vocabularies are expanded and fluency increased.
Offered every year. 3 credits.

CD 310 Language Disorders

Prerequisites: CD 100, CD 103, CD 110, CD 115, CD 205

Examination of the processes interfering with normal language acquisition and the disorders which disturb established language skills in children and adults.
Offered every year. 3 credits.

CD 320 Speech Disorders

Prerequisites: CD 100, CD 110, CD 115, CD 201, CD 202, CD 205,

Study of the theoretical bases of articulation, voice and fluency disorders. Etiology, characteristics, evaluation and rehabilitation of these disorders.
Offered every year. 3 credits.

CD 400 Introduction to Aural Rehabilitation

Prerequisites: CD 201, CD 202, CD 305, CD 310, CD 320

Study of the theoretical basis of the characteristics, evaluation and treatment of individuals with hearing impairment across the life span.
Offered every year. 3 credits.

CD 401 Advanced Directed Observations

Prerequisites: CD 301

Advanced aspects of clinical issues including procedures and material selection. Therapy/diagnostic sessions will be viewed and highlighted by the instructor.
Offered every year. 1 credit.

CD 410 Clinical Skills

Prerequisites: CD 305, CD 310, CD 320

Presentation of professional issues; observation and practice in evaluation and treatment of speech-language disorders.
Offered every year. 3 credits.

CD 420 Clinical Audiology Practicum

Prerequisites: CD 305, majors only, permission of the instructor

Review of audiometric techniques, discussion of interpretation, and live practicum experiences, with reports, in basic hearing evaluation and screening.
Offered every year. 3 credits.

CD 430 Neuroscience for Communication Sciences and Disorders

Prerequisites: CD 310, CD 320

Structure and function of the nervous system and its relation to normal and disordered speech, language, and hearing.
Offered every year. 3 credits.

CD 475 Selected Topics in Communication Sciences and Disorders

Prerequisites: CD 310, CD 320

Selection of topics of mutual interest to the student and faculty. Timely topics and issues will be covered.
Offered every year. 1-3 credits.

CD 490 Independent Study in Communication Sciences and Disorders

Prerequisite: Junior and senior majors only

In-depth study, research, or field experience in an area of interest in speech-language pathology or audiology under faculty supervision.
Offered every year. 1-3 credits.

Computer Science
Department of Computer Science

Faculty

Elena Braynova, Associate Professor (2003)
M.S., University at Buffalo, The State University of New York;
M.S., Ph.D., Moscow St. University, Russia

Aparna Mahadev, Professor (1999)
B.Sc., University of Madras, India; M. Sc., University of Madras, India;
M.S., Indian Institute of Technology, India; Ph.D University of Waterloo, Canada

Hemant Pendharkar, Associate Professor (2001)
B.S., M.S., University of Bombay, India; M.S., Ph.D., University of New Hampshire

Karl R. Wurst, Professor (1999), Department Chair
B.S., Central Connecticut State University; M.S., Ph.D., University of Connecticut

The Computer Science program offers education in the field for those who wish to pursue careers as software engineers, software developers, programmers, database designers and in other related areas.

It is highly recommended that entering students have four years of high school mathematics including the equivalent of pre-calculus.

Students wishing to apply courses transferred from other institutions to the Computer Science major should meet with the department chair to determine the applicability of the courses before registering for any Computer Science courses at Worcester State.

Non-traditional students with more than 5 years of Computer Science work experience may be eligible to participate in the Next Step Program. The program offers an opportunity to gain credit in the major for writing a prior learning portfolio. The department chair can assist you in determining if the program will serve your educational goals.

Requirements for a Major in Computer Science

Required Courses: 29 Credits

CS 101	Basics of Computer Science
CS 140	Introduction to Programming
CS 242	Data Structures
CS 253	Digital Computer Organization and Assembly Language
CS 282	UNIX Systems Programming
CS 352	Digital Computer Architecture
CS 373	Operating Systems
CS 375	Software Design & Analysis
CS 401	Object Oriented Software Development

Elective Courses: 12 Credits in Computer Science courses at the 300 level or above. Up to 3 credits of internship (CS 498) and up to 3 credits of Independent Study (CS 499) may be used to satisfy the major elective requirements.

Ancillary Requirements: (39 credits) (may apply to LASC requirements). These ancillary courses cannot be taken on a pass/fail basis.

CM 110	Public Speaking
EN 252	Technical Writing
UR 230	Technology, Public Policy & Urban Society
MA 200	Calculus I
MA 220 & MA 290	Discrete Mathematics I and II
A math course above MA 200	
2 lab science courses	
2 approved* math or science courses	

*Approved math and science courses must be chosen from department-approved list of courses.

Major in Computer Science, Concentration in Bioinformatics

The purpose of this interdisciplinary concentration is to prepare Computer Science students to enter science-intensive fields of bioinformatics, computational biology, computational chemistry and molecular modeling including genomics and proteomics. With the advent of the Human Genome Project, an explosion of genomics information has occurred, and databases such as GenBank and EMBL have grown at a rate that now requires storage, organizing and indexing of the information.

Questions of gene expression have led to computational biology, the process of analyzing genomic sequences and to the field of proteomics, the understanding of protein structure and function. The information obtained by computational biology and computational chemistry is used in the design of new drugs to treat a variety of diseases. Major drug and biotechnology companies are seeking people trained in bioinformatics.

In addition to the requirements for the Major in Computer Science:

BI 141	Introduction to Cellular and Molecular Biology	4
BT 378	Bioinformatics	4
CH 120	General Chemistry I*	4
CH 121	General Chemistry II*	4
CS 400	Database Design**	3
MA 201	Calculus II***	4
MA 303	Mathematical Modeling	3

One course from:

BI 203	Genetics+	4
BI 204	Microbiology	4
BI 306	Developmental Biology+	4
BI 353	Tree of Life: Evolutionary Systematics	4
BI 371	Molecular Biology+	4
BI 375	Virology+	4
BI/CH 410	Biochemistry+	4
BT 376	Biotechnology	4

+requires additional prerequisite courses beyond those required for the major and concentration.

*count as the two Lab Science courses required in the CS major Ancillary requirements.

**counts as one of the four CS major Elective requirements.

***counts as the additional level 200+ Mathematics course required in the CS major Ancillary requirements.

Requirements for a Minor in Computer Science: (Minimum of 19 credits)

CS 101	Basics of Computer Science
CS 135	Programming for Non-CS Majors
CS 140	Introduction to Programming
CS 242	Data Structures

Plus two more Computer Science courses at the 200 level or above.

Interdisciplinary Minor in Web Development: (18 Credits)

All courses must be chosen from the Computer Science (CS) and Communication (CM) department courses list (listed below).

Three (3) credits of the required 18 credits may be completed as an internship in the web development or web design area, in either the Computer Science or the Communication department in consultation with the CS department.

At least 9 credits (3 courses) must be completed from the CS courses list.

At least 6 credits must be completed from the CM courses list.

List of Computer Science Department Courses:

CS 161	Basics of Web Design
CS 261	Advanced Web Design Using Scripting Languages
CS 235	Data Communication and Networking for Non-Majors
CS 265	Database Applications

List of Communication Department Courses:

CM 105	Media Writing
CM 160	Introduction to Digital Imaging
CM 180	Introduction to Advertising
CM 247	Introduction to Multimedia
CM 374	Advanced Multimedia

Computer Science Courses

For information on the Liberal Arts and Sciences Curriculum (LASC), see page 36

CS 101 Basics of Computer Science

LASC—Quantitative Reasoning

Prerequisite: Familiarity with basic computer operations, Math placement code of 3 or above

A survey course that provides a foundation in the field of Computer Science by presenting a practical and realistic understanding of the field.
Offered every year. 3 credits.

CS 120 Microcomputer Applications

LASC—Quantitative Reasoning

Prerequisite: Familiarity with basic computer operations, Math placement code of 3 or above

Learning state-of-the-art application packages including but not limited to spreadsheets and database software.
Offered every year. 3 credits. (Credit will not be awarded for both CS 120 and CS 124.)

CS 124 Health Informatics

LASC – Quantitative Reasoning

Prerequisite: Familiarity with basic computer operations, Math placement code of 3 or above

Use of computers and information systems in health care. Databases and spreadsheets. Electronic health records. Privacy and policy issues.
Offered every year. 3 credits (Credit will not be awarded for both CS 120 and CS 124)

CS 130 Fundamentals of Information Technology

This course covers IT fluency skills and concepts; operating systems, networks, representation of information and the Internet.
Offered every year. 3 credits.

CS 135 Programming for Non-CS Majors

LASC – Quantitative Reasoning

Prerequisite: Math placement code of 3 or above

Introduction to programming. Emphasis on practical skills, working with data sets, doing analysis and visualization. No prior programming experience required.
Offered every year. 3 credits.

CS 140 Introduction to Programming

Prerequisite: CS 101

Introduction to fundamental structures and concepts of Computer Science including object-oriented programming; three lectures and one two-hour laboratory.
Offered every year. 4 credits.

CS 161 Basics of Web Design

Introduces concepts needed for creation, design and implementation of effective web pages. Latest versions of mark-up language(s) will be used.
Offered every year. 3 credits.

CS 193 Special Topics in Computer Science for First-year Students

All "193" classes are approved for LASC but may vary by section. See current course listing for specific LASC area approval.

Introductory level course covering topics of special interest to first-year students. Offered only as a First-year Seminar.
Offered every year. 3 credits.

CS 235 Data Communication and Networking for Non-Majors

This course covers the basic of computer networking and communications. It emphasizes both the Internet and business computer networking.
Offered every year. 3 credits.

CS 240 Application Development using Visual BASIC

Using the Visual Programming System to create robust and useful applications that make use of the graphical user interface.
Offered every 2 years. 3 credits.

CS 242 Data Structures

Prerequisites: CS 140, MA 220

Introduces time complexity and covers fundamental data structures: lists, stacks, queues, search trees, dictionaries, priority queues, B-trees and inverted files.
Offered every year. 3 credits.

CS 253 Digital Computer Organization and Assembly Language

Prerequisites: CS 140, EN 252, MA 220

Design and analysis of combinational and sequential circuits; assembly language programming, digital computer organization. Three lectures and one two hour laboratory.
Offered every year. 4 credits.

CS 261 Advanced Web Design Using Scripting Languages

Prerequisites: CS 161

This course covers scripting languages and teaches how to make the web pages interactive by embedding executable scripts into them.
Offered every 2 years. 3 credits.

CS 265 Database Applications

This course introduces basic database concepts and teaches how to create a database; use SQL; and create database applications.
Offered every 2 years. 3 credits.

CS 282 UNIX Systems Programming

Prerequisites: CS 242

Problem solving and software design using C; introduction to UNIX programming utilities and text manipulation; low-level system programming in UNIX and C.
Offered every year. 3 credits.

CS 297 Selected Topics in Computer Science

Topics of mutual interest to students and faculty.
Offered every 3 years.1-4 credits.

CS 335 Networking and Web Security

Prerequisites: CS 282

This course covers web and security problems, solutions, and techniques. Encryption, worms, viruses, firewall, safer practices, etc. are covered.
Offered every 2 years. 3 credits.

CS 345 Object Oriented Programming with C++

Prerequisites: CS 282

Introduction to the fundamentals of C++; Topics include objects/classes, single/multiple inheritance, friend functions, operator overloading, polymorphism and streams.
Offered every 2 years. 3 credits.

CS 352 Digital Computer Architecture

Prerequisites: CS 253

A study of the internal structure of a typical digital computer from both a logical and a hardware viewpoint; memory devices, arithmetic, and control circuits including LSI and MSI components.
Offered every year. 3 credits.

CS 365 Client Server Computing Using the Internet

Prerequisites: CS 242

This course covers what client/server is and covers various client/server models and explores the Internet from a client/server perspective.
Offered every 2 years. 3 credits.

CS 371 Computability Theory

Prerequisites: CS 140, MA 290

This course provides an introduction to theoretical computer science. Covers the fundamentals of automata theory, formal languages, and computability theory.
Offered every year. 3 credits.

CS 372 Principles of Programming Languages

Prerequisites: CS 282

Topics include comparison of syntax and semantic descriptions, data types and control, operations and sequencing, ease of use, applicability, generality, non-procedurality, and efficiency.
Offered every 2 years. 3 credits.

CS 373 Operating Systems

Prerequisites: CS 352, CS282, EN252

Hardware and software as an integrated system; development of system software for process management, resource allocation, memory management and I/O processing.
Offered every year. 3 credits.

CS 375 Software Analysis and Design

Prerequisites: CS 242, CM 110, EN 252

This course deals with software as an engineered product that requires planning, analysis, design, implementation, testing and maintenance.
Offered every 2 years. 3 credits.

CS 380 System Programming

Prerequisites: CS 282

The design and implementation of assemblers, linkers, loaders, editors, and high-level translation software. Algorithms solving specific problems of a system program are investigated.
Offered every 2 years. 3 credits.

CS 400 Database Design

Prerequisites: CS 242, EN 252, CM 110

Introduces database models with emphasis on relational model; ER diagrams, relational calculus, relational algebra and SQL, normalization, transaction processing and recovery.
Offered every other year. 3 credits.

CS 401 Object Oriented Software Development

Prerequisites: CS 375

This course introduces object-oriented software development concepts as a new way of thinking about problems using models organized around real-world concepts.
Offered every year. 3 credits.

CS 405 Data Communications and Networking

Prerequisite: CS 373, EN 252, CM 110

Data transmission, encoding, interfacing, synchronization, data-link control, multiplexing, networking, circuit switching, packet switching, radio and satellite, local area networks, network access protocols.
Offered every year. 3 credits.

CS 442 Algorithm Analysis

Prerequisite: CS 282, MA 200

Various complexity classes; algorithmic strategies, graph algorithms, pattern matching, cryptographic and geographic algorithms; NP-complete problems.
Offered every year. 3 credits.

CS 471 Artificial Intelligence

Prerequisites: CS 371,CS 242, EN 252

Introduction to central issues of constructing intelligence systems. Examines historical and future trends of AI research.
Offered every 2 years. 3 credits.

CS 472 Robotics

Prerequisites: CS 253, CS 282

Design and implementation of robotic systems, sensors and sensing, effectors, mechanics, control strategies and architectures, hardware and software issues.
Offered every 2 years. 3 credits.

CS 497 Selected Topics in Computer Science

Prerequisite: CS 282

Selection of topics of mutual interest to students and faculty.
Offered every 3 years. 1-6 credits.

CS 498 Internship

Prerequisites: Approval by vote of Computer Science faculty; 21 credit hours in Computer Science courses including CS 282.

Working in and for an organization where skills can be tested in real situations in order to gain experience, increase knowledge in various functional areas, and establish important contacts with an organization.
Offered every year. 3 credits.

CS 499 Independent Study

Prerequisites: 18 credit hours in Computer Science including CS 282 and approval by vote of Computer Science faculty.

An opportunity for advanced students to examine topics not normally taught in other computer science courses. Geared to interests of both the student and the instructor.
Offered every year. 1-6 credits.

Criminal Justice

Faculty

Robert Brooks, Associate Professor (2004), Department Chair
B.M., Wayne State University; M.A., Antioch University, Los Angeles; J.D., University of Detroit Law School; Ph.D., American University

Charles Brownlee, Assistant Professor (2005)
B.S., California State University Los Angeles; J.D., University of California at Berkeley; A.B.D., Northeastern University

Hye-Sun Kim, Assistant Professor (2010)
B.A., Dongguk University, South Korea; M.A., Ewha Women's University, South Korea; M.A., John Jay College of Criminal Justice; Ph.D., Indiana University of Pennsylvania

Penny Martin, Associate Professor (2003)
B.S., Weber State College, Utah; M.A., Humboldt State University; Ph.D., University of Miami

Stephen Morreale, Assistant Professor (2007)
B.S., University of Massachusetts, Boston; M.P.A., Golden Gate University; D.P.A., Nova Southeastern University

John R. Tahiliani, Assistant Professor (2008)
B.A., King's College; M.A., Ph.D., Washington State University

The Bachelor of Science degree in Criminal Justice is a 120 credit-hour program. It is an interdisciplinary major, predicated on a common core of the humanities, social sciences, mathematics, and physical sciences. The goal of the program is to develop in students an increased analytical awareness of the role of law enforcement agencies, courts, and correctional institutions in the criminal justice system. The curriculum includes course work to provide students with awareness of recent advances in human dynamics, civil rights legislation and information technology.

The course of study consists of an extensive overview of the criminal justice system and an intensive examination of each of the major components of the system. The program is designed to serve students who may elect to enter the criminal justice profession immediately upon graduation, students of the liberal arts without professional interest in criminal justice, and students who desire to pursue graduate work. Criminal Justice majors are able to apply for an internship in a criminal justice agency during their senior year.

To request an application form, please call the Admissions Office at 508-929-8758.

Requirements for a Major in Criminal Justice: 39 credits in criminal justice, of which 21 must be completed at Worcester State.

Major Core: 18 credits

- CJ 101 Introduction to Criminal Justice
- CJ 121 Theories of Crime
- CJ 201 Law Enforcement and Society
- CJ 202 Introduction to Corrections
- CJ 205 American Judicial System
- CJ 331 Research Methods in Criminal Justice

Criminal Justice Electives: 21 credits

Criminal Justice Courses

For information on the Liberal Arts and Sciences Curriculum (LASC), see page 36

CJ 101 Introduction to Criminal Justice

A survey of the American Criminal Justice System as a socio-political institution. The police, criminal courts, and correctional and rehabilitative endeavors will be analyzed within the framework of empirical research from the perspectives of the social sciences. Required of all first-year students in the Criminal Justice major.
Offered every year. 3 Credits.

CJ 121 Theories of Crime

Prerequisite: CJ 101

An exploration of prominent theories of crime causation, ranging from biological, psychological, sociological, and cultural explanations. Theories are compared and contrasted and implications are discussed as foundations for criminal justice system policy.
3 Credits.

CJ 193 Special Topics in Criminal Justice for First-year Students

All "193" classes are approved for LASC but may vary by section. See current course listing for specific LASC area approval.

Introductory level course covering topics of special interest to first-year students. Offered only as a First-year Seminar.
Offered every year. 3 credits.

CJ 201 Law Enforcement and Society

Prerequisites: CJ 101 or its equivalent

The structure and function of law enforcement agencies in contemporary society will be analyzed in their sociological context. Particular emphasis will be placed on the role of the police within the framework of the Criminal Justice System.
Offered every year. 3 Credits.

CJ 202 Introduction to Corrections

Prerequisite: CJ 101 or its equivalent.

An in-depth examination of the American Correctional System. Traditional punitive measures will be analyzed in relation to current reintegration alternatives.
Offered every year. 3 credits.

CJ 205 American Judicial System

Prerequisite: CJ 101 or its equivalent.

An examination of the development of law and the American legal system, including the problems related to the meaning and uses of law; the organizational hierarchy of the courts; and the role of the courts in the criminal justice system.
Offered every year. 3 credits.

CJ 301 Juvenile Procedure

Prerequisites: CJ 101, CJ 201, CJ 202, CJ 205, or their equivalent.

An examination of the underlying philosophy of juvenile justice and procedures used to process a juvenile alleged to be delinquent through the juvenile justice system. The course will focus on the differences between juvenile procedure and adult criminal procedure by examining recent court decisions and statutory law pertaining to juveniles.
3 credits.

CJ 302 Criminal Law

Prerequisite: CJ 101, CJ 201, CJ 202, CJ 205, or their equivalent.

The function of criminal law and its relationship to various criminal offenses, including crimes against persons and crimes against property.
3 credits.

CJ 303 Patterns of Criminality

Prerequisites: CJ 101, CJ 201, CJ 202, CJ 205, or their equivalent.

The U. S. Department of Justice Index Crimes will be studied along with other crimes; which will be selected on the basis of their contemporary administrative significance and their effect on the criminal justice system in particular.
3 credits.

CJ 304 Prevention and Control

Prerequisites: CJ 101, CJ 201, CJ 202, CJ 205, or their equivalent.

An in-depth examination of the criminal justice system and the efforts it has exerted in an attempt to prevent and control criminal behavior. Course will focus on the traditional methods including probation and parole as well as recent trends in crime control and prevention: the utilization of community based treatment programs and attempts by many criminal justice agencies to avoid the processing of individuals through the system.
3 credits.

CJ 305 Principles of Evidence and Proof

Prerequisites: CJ 101, CJ 201, CJ 202, CJ 205, or their equivalent.

The study of the different types of evidence, relevance, the hearsay rule and its exceptions, impeachment and cross-examination and privileged communications.
3 credits.

CJ 306 Contemporary Problems in Corrections

Prerequisites: CJ 101, CJ 201, CJ 202, CJ 205, or their equivalent.

An intensive analysis of selected problems in institutional and community corrections.
3 credits.

CJ 307 Contemporary Problems in Law Enforcement

Prerequisites: CJ 101, CJ 201, CJ 202, CJ 205, or their equivalent.

An intensive analysis of selected problems in American law enforcement and police-community relations. A major research paper is required.
3 credits.

CJ 308 Rights of the Convicted

Prerequisites: CJ 101, CJ 201, CJ 202, CJ 205, or their equivalent.

An examination of the legal rights of the individual who has been convicted of a crime. This lecture course will focus specifically on both federal and state laws and court decisions dealing with the legal rights of probationers, confined prisoners, and parolees in the American criminal justice system.
3 credits.

CJ 309 Principles of Criminal Investigation

Prerequisites: CJ 101, CJ 201, CJ 202, CJ 205, or their equivalent.

The science of investigation of crimes, laboratory techniques, interpretation of data, and elements of specific crimes.
3 credits.

CJ 310 Organized and White Collar Crime

Prerequisites: CJ 101, CJ 201, CJ 202, CJ 205, or their equivalent.

The methods through which organized crime influences and, in many instances, controls entire communities. Traditional types of crime heavily influenced by organized crime, such as loan sharking and gambling, will be analyzed in an effort to demonstrate the basis of power and wealth of organized crime in the United States.
3 credits.

CJ 311 Victimology

Prerequisites: CJ 101, CJ 201, CJ 202, CJ 205, or their equivalent.

Criminal-victim relationships, with emphasis on victim-precipitated crimes and compensation to the victims. Consideration is given to: concept and significance of victimology; time, space, sex, age, and occupational factors in criminal-victim relationships; victims of murder, rape, other violent crimes and property crimes; victim typology; the public as victim; restitution and compensation to victims.
3 credits.

CJ 312 Women and the Law

Prerequisites: CJ 101, CJ 201, CJ 202, CJ 205, or their equivalent.

An examination of the female and her involvement with the legal processes in the United States. Attention will be focused on the female as the offender and as the victim. Analysis of the various theoretical approaches to understanding the female offender will be presented in addition to an exploration of the recent literature on the female and the criminal justice system.
3 credits.

CJ 313 Quantitative Methods in Criminal Justice

Prerequisites: CJ 331 or its equivalent.

Examines the relationship and application of statistical techniques to theory building and concept construction. Gives an overview of statistical methods and their appropriateness for research in criminal justice. In addition, various computer-oriented analytical tools and data processing systems available to the criminal justice practitioner will be surveyed.
3 credits.

CJ 314 Seminar on Offender Rehabilitation

Prerequisites: CJ 101, CJ 201, CJ 202, CJ 205, or their equivalent.

The "nothing works" doctrine generated by the controversial Martinson Report has resulted in considerable confusion regarding the effectiveness of corrections programs designed to elicit specific behavioral changes on the part of the correctional client. This course will thoroughly examine the debate surrounding the "nothing works" doctrine and present those methods of rehabilitation that have proven effective in the treatment of offenders. Probation, parole and programs for the incarcerated offender will be the primary focus of this course.
3 credits.

CJ 315 Stress and the Criminal Justice System

Prerequisites: CJ 101, CJ 201, CJ 202, CJ 205, or their equivalent.

An intensive examination of the interpersonal stresses indigenous to Criminal Justice practitioners. Stress management within Criminal Justice organizations will be considered in terms of the administrative and functional problems encountered. Special attention will be given to the criminal justice environment which deals with social service and control on a twenty-four hour basis.
3 credits.

CJ 316 Civil Liabilities of Criminal Justice Professionals

Prerequisites: CJ 101, CJ 201, CJ 202, CJ 205, or their equivalent.

The civil liability for harm inflicted on another. Topics to be considered will include: intentional torts such as assault, battery, and false imprisonment; negligence; torts of strict liability; libel, slander and defamation; liability of owners and occupiers of land; and the liability of state and federal employees for harm caused in their respective professional capacities.
3 credits.

CJ 317 Evolution of American Law Enforcement

Prerequisites: CJ 101, CJ 201, CJ 202, CJ 205, or their equivalent.

A critical analysis of the contemporary American law enforcement establishment in relation to the evolutionary forces that have contributed to its development. Excepting modern technology, the law enforcement function tends to run in predictable cycles. Traditional in origin, these cyclical phenomena may be observed in the patters of older societies. Reflections of the past are deemed vital to a more objective and well-rounded perception of current issues.
3 credits.

CJ 319 Economic Crime

Prerequisites: CJ 101, CJ 201, CJ 202, CJ 205, or their equivalent.

The manner in which professionals in business are able to manipulate and control computer systems and engage in various types of while collar crime will be examined. Emphasis will be placed on consumer and computer fraud, embezzlement, and particular attention will be focused on corporate crime and on the criminal justice system's attempts to identify, prevent, and control it.
3 credits.

CJ 320 Criminal Procedure: Fourth Amendment Rights of the Accused

Prerequisites: CJ 205, or its equivalent; or permission of the instructor.

A study of due process, the exclusionary rule, and the legal problems associated with arrests, searches, and seizures.
3 credits.

CJ 321 Criminal Procedure: Fifth and Sixth Amendment

Prerequisite: CJ 205, or its equivalent; or permission of the instructor.

A study of the legal problems associated with interrogations, confessions, entrapment, lineups and wiretapping and electronic surveillance.
3 credits.

CJ 322 Youth Gangs

Prerequisite: Junior standing

This course will offer an in-depth study of youth gangs in the United States. Topics to be examined include various theories of gang formation, group dynamics, and individual factors associated with gang membership. Attention will also be given to the different types of gangs that exist. Given these dynamics, the final portion of the course will focus on prevention and intervention efforts aimed at reducing gang behavior.
3 Credits.

CJ 323 Religion and Crime in Contemporary America

This course will serve as an introduction to issues related to religion and the criminal justice system. Topics will include the religious origins of the legal and correctional systems, religion and contemporary law, religion in prison and corrections, hate crimes and terrorism.
3 Credits.

CJ 324 Restorative Community Justice

Prerequisite: Junior standing

Restorative Community Justice is based on a new vision of criminal justice that stresses offender reintegration through offender accountability. Rather than simply a legal violation, crime is viewed as a breach in the relationship between the offender and the victim, and also the offender and the community. To the greatest degree possible, resolution should rest in the hands of those most directly involved, with the state mediating the conflict. This course will explore the philosophy of restorative justice, and current practices of victim-offender mediation, where the offender is required to directly confront the person(s) harmed, and the victim is given a real voice. It will examine how offenses can be resolved in ways that are positive and constructive for victims, communities, and also for offenders. The student will develop an understanding of the basic tenets of restorative justice, and also knowledge of how this concept is being applied in criminal justice practices in the U.S. and internationally.
3 Credits.

CJ 325 Capital Punishment

This course focuses on capital punishment law, particularly United States Supreme Court decisions addressing constitutional issues relevant to the death penalty. Students also will explore empirical, penological, political, and moral issues related to the death penalty and its administration.
3 Credits.

CJ 326 Planned Change in Criminal Justice

Prerequisite: Junior standing

This course is designed to acquaint students with general theories of planned change at the individual, organizational, and community levels. Special attention will be given to the need for employee involvement and collaboration in working toward organizational goals, with reference to concepts such as reinventing government and total quality management. The emphasis will be on applied theory. Students will be expected to develop their own ideas for change in the fields of policing, courts, or corrections. They would then be required to consider the resistances that would likely arise as their changes are introduced, and how they should best be dealt with, considering planned change theories from the course.
3 Credits.

CJ 327 Race, Ethnicity, and Criminal Justice

Prerequisites: CJ205

An examination of the issues of race and ethnicity which continue to affect all aspects of criminal justice in America. Whether as offenders, victims, or as persons working (or seeking to work) within the system, African Americans, Hispanics, and other minorities are treated differently than non-minorities. This course explores the core concepts of race and ethnicity as they have developed in our culture, and examines the evidence for and against various forms of racism and discrimination in key institutions of the criminal justice system. The nature and status of constitutional, statutory, and other remedies are also explored.
3 Credits.

CJ 328 Computer Application in Crime Analysis

This course is designed to examine developments in information systems and their applications in the crime analysis environment. Particular attention will be given to management and analysis of crime-related data as well as an assessment of current and future applications in crime analysis. Previous computer experience is not required.
3 Credits.

CJ 329 Crime and the Media

The course will deal with issues related to the mass media and crime in society. The increasing importance of the mass media in shaping peoples perception of and attitudes toward the criminal justice system will be focused on. Other topics will include the media as a cause and cure for crime, biases in the media coverage, the effects of the media on criminal proceedings and crime on television and films.
3 Credits.

CJ 330 Criminal Justice Administration

Prerequisites: CJ 101, CJ 201, CJ 202, CJ 205, or their equivalent.

An examination of organizational theory and its applications within criminal justice agencies. Consideration of the principles of organization and methods adopted by progressive agencies to insure effective criminal justice service to the community will be reviewed.
3 credits.

CJ 331 Research Methods in Criminal Justice

Prerequisites: CJ 101, CJ 201, CJ 202, CJ 205, or their equivalent.

An introduction to scientific methodology as related to criminal justice. The course will focus on the development of hypotheses, data collection, data analysis and hypothesis verification. Attention is also given to basic statistical techniques appropriate for criminal justice research.
Offered every year. 3 credits.

CJ 332 Homicide

Prerequisites: CJ 101, CJ 201, CJ 202, CJ 205, or their equivalent.

An in-depth discussion of the legal definitions of and rationalizations for homicide. The statistical aggregates of those occasions will be considered in terms of demographic and ethno-cultural phenomena. The murder episode is examined within the context of morality.
3 credits.

CJ 333 Terrorism

Prerequisites: CJ 101, CJ 201, CJ 202.

This course will explore the development of terrorism as a form of crime. Topics to be studied include major terrorist groups and their strategies, tactics and targets, jurisdictional issues, anti-and counter-terrorist operations, federal law enforcement, and future trends in terrorism.
3 credits.

CJ 334 Drugs and Crime

Prerequisites: CJ 101, CJ 201, CJ 202.

This course will present an overview of the problems of drug-related crime in contemporary society. Specific drug substances are discussed, as well as legal, cultural, and social factors in connection with drug law enforcement.
3 credits.

CJ 335 Comparative Criminal Justice Systems

Prerequisites: CJ205

Increasingly, practitioners in the American criminal justice systems are required to interact with their counterparts, as well as citizens from other national jurisdictions. Effective interaction, including cooperation and sharing, requires some understanding of how criminal justice is conceived and practiced in other parts of the world. This course examines and compares key institutions of the criminal justice systems in six model countries, two in Europe, two in Asia, one Islamic nation, and one from Latin America. We look not only at formal organizations in each country, but also at actual practices and how they compare with each other and the United States. To understand how differences and similarities have developed, we also learn something of the history, culture, political system and economic conditions of each model country.
3 Credits.

CJ 336 Supervisory Practices in Law Enforcement

Prerequisite: Junior standing.

An examination of supervisory practices and principles utilized in public safety agencies; problems confronting the newly promoted employee; theories of organization and leadership; motivation of subordinates; effective communication; training; performance evaluation; disciplinary processes.
3 credits.

CJ 337 Criminal Justice Ethics

This course investigates the application of moral logic to problems in the field of Criminal Justice. Issues related to policing, criminal prosecution, and corrections will be studied. Students will be encouraged to induce general moral precepts and rules from the examination of particular situations and problems.
3 Credits.

CJ 338 Issues in Contemporary Security

Prerequisite: Junior standing

An overview of security systems applicable to contemporary industrial and commercial demands. Losses through physical, technological, and personnel hazards are viewed as preventable phenomena if vulnerabilities are recognized and ameliorative measures taken. Counter-measures will be weighed within the framework of loss criticality and cost of effectiveness.
3 Credits.

CJ 339 Probation, Parole, and Community Corrections

This course will present an overview of correctional options in the community. It will challenge students to consider how sanctions for criminal offenders can be managed in the community without unduly sacrificing community safety or the integrity of the justice system. Community Corrections is a fluid and continually changing field. The focus will be on main themes and trends in probation and parole. Specific attention will be given to the dual and often conflicting goals of community protection and positive offender change with which the practitioner is typically confronted, the types of policies and programs implemented to meet these goals, and their effectiveness.
3 Credits.

CJ 340 - 349 Special Topics in Criminal Justice

An in-depth study of a limited or specialized area within the criminal justice field. Course content will vary according to the area of specialization of the instructor and the interest of the students. May be repeated if course content differs.
3 credits.

CJ 384 Adult Offenders: Case Studies

Prerequisite: Junior standing.

A critical, theoretical examination of certain types of adult offenders, especially those who are socially disadvantaged. This examination will be based largely upon the analysis of qualitative research studies that have been done with adult offenders. Special attention is given to the case study method and to understanding adult offenders as individuals making choices within the constraints of larger political, economic, social and ideological structures.
3 credits.

CJ 385 Juvenile Offenders: Case Studies

Prerequisite: Junior standing.

A critical, theoretical examination of various types of juvenile offenders. This examination will be based largely upon the analysis of qualitative research studies that have been done with juveniles. Special attention is given to the case study method and to understanding juvenile offenders as individuals embedded within and influenced by numerous social structures (e.g., gender, race, family, school and economics).
3 credits.

CJ 398 Field Practicum in Criminal Justice

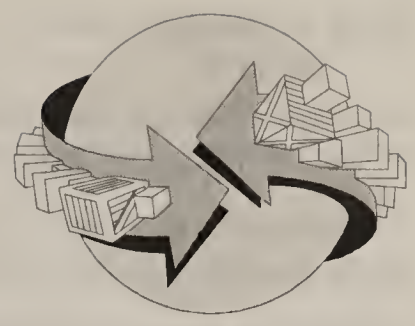
Prerequisite: Permission of the instructor.

The field practicum class involves the student's participation in the day-to-day functions of a publicly funded criminal justice agency. The course is designed to provide students with an opportunity to translate the theoretically oriented classroom experience into practical application.
3-6 credits.

CJ 399 Independent Study

Prerequisite: Permission of the instructor.

Individual research and independent study related to particular aspect of criminal justice that is of special interest.
3-6 credits.



Economics

Department of Business Administration and Economics

Faculty

Wei Pang Lee, Professor (1992), Department Chair
B.A., Soochow University, Taipei, Taiwan; M.B.A., Northwest Missouri State University; Ph.D., University of Georgia, Athens

William F. O'Brien, Jr., Professor (1997)
B.S., Worcester State College; M.A., Ph.D., Northeastern University

Bonnie Orcutt, Professor (2004)
B.S., Worcester State College; M.A., Ph.D., Clark University

Elizabeth J. Wark, Professor (2007)
B.A., Mount Holyoke College; M.B.A., University of Massachusetts; M.A., Ph.D., Clark University

Janice G. Yee, Professor (2007)
B.A., University of Massachusetts, Dartmouth; M.A., Ph.D., Clark University

The economics program is designed to help students understand the world they live in, analyze important social issues, and adapt to a changing economic climate.

The Economics Major is good preparation for a wide variety of careers in various government agencies, business firms, non-profit organizations, and academic institutions. It is a good basis for advanced professional degrees in areas such as management, finance, law, and public affairs. Since it is frequently necessary to obtain additional training in order to become a professional economist, the major is also designed to prepare students for graduate study.

Omicron Delta Epsilon, the international honor society in economics, is available to outstanding students.

Requirements for a Major in Economics: 33 credits with EC designation

EC 110	Introduction to Microeconomics
EC 120	Introduction to Macroeconomics
EC 150	Statistics (or another acceptable statistics course)
EC 200	Intermediate Macroeconomics
EC 201	Intermediate Microeconomics

One of the following:

EC 202 Introduction to Mathematical Economics
EC 306 Introduction to Econometrics
(or a course in which calculus is a primary topic)

The remaining 15 (or more) credits may be chosen from economics electives in accordance with special interests and career objectives.

Students are encouraged to take an internship if their program permits.

Requirements for a Minor: 18 credits

EC 110 Introduction to Microeconomics
EC 120 Introduction to Macroeconomics
PLUS Any four additional Economics courses

Economics Courses

For information on the Liberal Arts and Sciences Curriculum (LASC), see page 36

EC 102 Consumer Economics

LASC—Individual and Community Well-Being

An in-depth study of personal and family economics, obtaining income, buying wisely, consumer borrowing, saving, and financial investment; the consumer protection and consumer legislation movements will be specifically emphasized.
Offered every year. 3 credits.

EC 104 Personal Financial Planning

LASC—Individual and Community Well-Being

An investigation of the major vehicles for our personal savings: bonds, stocks, mutual funds, real estate, and retirement and estate planning.
Offered every 3 years. 3 credits.

EC 110 Introduction to Microeconomics

LASC—Human Behavior and Social Processes

An introduction to the operation of the American market system and to the behavior of its participants whether consumers, producers, the government, or other nations engaged in international trade with the United States.
Offered every year. 3 credits.

EC 120 Introduction to Macroeconomics

LASC—Human Behavior and Social Processes

Introduction to economic analysis with particular emphasis upon the national problems of achieving and maintaining full employment, general price stability, and growth of the American economy through time.
Offered every year. 3 credits.

EC 130 Selected Topics

Selection of topics of mutual interest to student and faculty. Timely topics and issues will be covered.
Offered every 2 years. 1-3 credits.

EC 150 Statistics

LASC—Quantitative Reasoning

Prerequisites: EC 110 or EC 120, and Accuplacer code of 4

Basic tools of statis–tical analysis appropriate to research in the social sciences; topics include measures of central tendency, hypothesis testing, time series, index numbers, regression and correlation.
Offered every 2 years. 3 credits.

EC 193 Special Topics in Economics for First-year Students

All "193" classes are approved for LASC but may vary by section. See current course listing for specific LASC area approval.

Introductory level course covering topics of special interest to first-year students. Offered only as a First-year Seminar.
Offered every year. 3 credits.

EC 200 Intermediate Macroeconomics

Prerequisites: EC 110, EC 120 and sophomore status

An intermediate analysis of the determination of the level and growth of national income and employment, special attention given to the problems of inflation and recession and to the national fiscal and monetary policies designed to maintain full employment and stable price levels.
Offered every year. 3 credits.

EC 201 Intermediate Microeconomics

Prerequisite: EC 110, EC 120 and sophomore status

An intermediate level treatment of the theory of market pricing in a private enterprise system as it affects the resource and output decision of firms and industries under various market structures and the behavior of consumers.
Offered every year. 3 credits.

EC 202 Introduction to Mathematical Economics

Prerequisites: EC 110, EC 120; MA 110 with a grade of C+ or above or an Accuplacer code of 6

A survey of some basic mathematical techniques appropriate to the analysis of economic models and application of economic theory.
Offered every 2 years. 3 credits.

EC 205 Money, Banking, and Monetary Policy

Prerequisites: EC 110, EC 120

A study of the roles of money, depository institutions, and central bank monetary policy in maintaining stable growth of the American economy.
Offered every 3 years. 3 credits.

EC 206 Urban Economics

Prerequisites: EC 110, EC 120

The theory and policy of the growth and development of metropolitan areas; some of the policy-related problems discussed are poverty, residential and commercial land use, and traffic congestion.
Offered every 2 years. 3 credits.

EC 208 Economics of Health Care

LASC—Individual and Community Well-Being; Writing Across the Curriculum

Prerequisites: EC 110

Introductory study of the health care industry of the United States; pricing of health care, manpower availability, alternative delivery systems, third party payments, and government role in planning, regulating, and financing health care.
Offered every 3 years. 3 credits.

EC 210 Current Economic Issues

Prerequisites: EC 110, EC 120

This course is designed to connect economic knowledge and theory acquired at the introductory level to current economic issues and policy. National and international topics of importance will be considered. For example, pollution, trends in productivity, profitability and distribution, debt and deficits, patterns of investment, trade, and globalization and the economic issues of race, gender and poverty may be covered.
Offered every year. 3 credits

EC 215 Labor Economics

Prerequisites: EC 110, EC 120

A study of the process of wage determination in a market economy, consideration given to the evolution of union organization and collective bargaining affecting wages, hours, working conditions, and grievance procedures for labor.
Offered every year. 3 credits.

EC 301 Economic Development

Prerequisites: EC 110, EC 120

A survey of contemporary economic theories concerning less developed countries; social, cultural, and political forces shaping the development of such countries are also investigated.
Offered every 3 years. 3 credits.

EC 302 Development Planning and Regional Economics

Prerequisites: EC 110, EC 120

A survey of the problems that must be dealt with by less-developed countries in planning their economic development. Theories of regional economics applicable to both developed and less developed economies.
Offered every 3 years. 3 credits.

EC 304 Economics of the Environment

Prerequisites: EC 110, EC 120

Methods of pollution control and the socio-economic problems caused by pollution, current research on ecology andeconomics, and the impact that limits on pollution may have on income and population growth.
Offered every 3 years. 3 credits.

EC 306 Introduction to Econometrics

Prerequisites: EC 110, EC 120, MA 150 or EC 150

The application of statistical techniques to the verification of economic models and examination of economic problems.
Offered every 2 years. 3 credits.

EC 307 International Finance

Prerequisites: EC 110, EC 120

Study of how international trade and investment is financed in a world of floating, fixed and managed exchange rate systems.
Offered every 2 years. 3 credits.

EC 308 International Trade

Prerequisites: EC 110, EC 120

Reasons why nations gain by spatial specialization and exchange with other countries. Analysis of the mechanism by which international equilibrium is restored. Study of trade and foreign exchange policies.
Offered every 2 years. 3 credits.

EC 309 Public Spending and Taxation

Prerequisites: EC 110, EC 120

Analysis of government spending, revenue sharing and taxation; includes the impact of government spending upon efficient use of resources and national growth.
Offered every 3 years. 3 credits.

EC 310 Public Choice

Prerequisites: EC 110, EC 120

The economic analysis of government decision-making. Voting systems, special interest groups, log rolling, rent seeking, bureaucracy and multidimensional versus single issue constituencies.
Offered every 2 years. 3 credits.

EC 312 Natural Resource Economics

Prerequisites: EC 110, EC 120

The use of renewable and non-renewable natural resources in a market economy and the role of government policy concerning them.
Offered every 2 years. 3 credits

EC 400 Independent Study in Economics

Prerequisites: EC 200, EC 201 OR permission of Instructor

For the student whose needs cannot be fully met by available offerings; actual arrangements to be made between student and professor; not intended for general enrollment; a limit of three credits can be acquired.
Offered every year. 1-3 credits.

EC 401 Seminar

Prerequisites: EC 200, EC 201 OR permission of Instructor

A research and discussion process intended to summarize and provide some career orientation to the undergraduate preparation of the economics major at the senior class level.
Offered every 3 years. 3 credits

EC 402 Internship in Economics

Prerequisites: EC 200, EC 201 OR permission of Instructor

Practical experience in economic analysis with industry, non-profit organizations, government agencies; internships may be of varying length.
Offered every year. 1-12 credits.

EC 403 Special Topics in Economics

Prerequisites: EC 200, EC 201 OR permission of Instructor

Covers selected topics in economics of mutual interest to the student and faculty.
Offered every 2 years. 1-3 credits.

Education

Department of Education

DISCLAIMER: REGULATIONS FOR TEACHER LICENSURE ARE CURRENTLY UNDER REVIEW BY THE DEPARTMENT OF EDUCATION. AS A RESULT, THE PROGRAMS DESCRIBED BELOW MAY BE SUBJECT TO CHANGE AT ANY TIME.

Faculty

Christina L. Bebas, Assistant Professor (2010)
B.A., Stonehill College; M.Ed., Worcester State College; ABD (summer 2011) Northeastern University

Margaret Pray Bouchard, Associate Professor (2002)
B.S., Bridgewater State College; M.Ed., Boston College; Ed.D, Boston University

Caroline M. Chiccarelli, Associate Professor (2001)
A.B., Newton College of the Sacred Heart; M.A., Fairleigh Dickinson University; Ph.D., University of Connecticut

Diane Tighe Cooke, Associate Professor (2002)
B.S., Louisiana State University; M.A., University of Colorado-Boulder; Ph.D., University of Colorado-Boulder

Douglas R. Dawson, Assistant Professor (2009)
B.A., Princeton University; Ph.D., University of California at Irvine

Carol Burns Donnelly, Professor (1997)
A.B., Wellesley College; M.A., University of Miami; M.Ed., Harvard University; Ed.D, Boston University

Denise Foley, Assistant Professor (2010)
B.A., College of the Holy Cross; M.Ed., Bridgewater State College; C.A.G.S., Fitchburg State College; Ed.D., Indiana University of Pennsylvania

Sue Fan Foo, Associate Professor (2004)
M.Ed., Ed.D., University of Cincinnati

Raynold M. Lewis, Professor (1998), Department Chair
BTh., West Indies College; M.Ed., Worcester State College; Ph.D., Illinois State University

Patrick J. O'Connor, Professor (1995)
B.A., Assumption College; M.A., Niagara University; Ed.D., University of Massachusetts

Margarita Perez, Professor (1999)
B.A., Mount Holyoke; M.A., Ed.D., Teachers College, Columbia University

Elaine G. Tateronis, Professor (1996), Dean
B.S., M.Ed., Worcester State College; Ed.D., Boston College

Audrey E. Wright, Professor (2002)
B.S., M.Ed., Worcester State College; Ed.D., University of Massachusetts

Sara L. Young, Associate Professor (2010)
B.A., School for International Training; M.Sc., New School for Social Research; Ed.D., University of Massachusetts, Amherst.

The Education Department offers a wide range of undergraduate and graduate programs in professional education. Students can become licensed to teach in early childhood (PK-2) with and without disabilities, elementary (1-6), middle (5-8), or secondary (8-12) schools or credentialed to teach in preschool and day care programs. The Department programs offer a blending of classroom and fieldwork approaches. Kappa Delta Pi, the International Honor Society in education, is available to outstanding upper-division students. Graduate programs provide opportunities for students to prepare for careers in Reading, Educational Administration, Moderate Special Needs and School Psychology, as well as in Early Childhood, Elementary, Middle, or Secondary Education.

To teach in the Commonwealth of Massachusetts a teaching license is required. The Worcester State Teacher Education program is recognized by the Massachusetts Department of Elementary and Secondary Education as having an approved program in the fields of Early Childhood Education, Elementary Education, Middle School Education and Secondary School Education. Students in the Elementary and Early Childhood Education programs have two complete majors, one in the content area and one in education. The Middle and Secondary school programs have a major in content and a minor in education. The Massachusetts Test for Educator Licensure (MTEL) is embedded in the program at various stages and must be passed for completion of the program and licensure.

Title II Institutional Report for 2008-2009

Section I: Pass Rates. Supplied by the Massachusetts Department of Elementary and Secondary Education (DESE) by National Evaluation Systems, Inc. (NES)

The Annual Institution Report *(see below)* for the 2008-2009 Program Year was obtained through NES. Program completers for whom information was previously provided to derive these data re: those who completed program requirements in the most recent academic year. Thus, for institutional reports due to the state by April 7, 2010, the relevant information is for those who completed program requirements in academic year 2008-09. For purposes of this report, program completers do not include those who have completed an alternative route to licensure as defined by the state.

Massachusetts Tests for Educator Licensure · Annual Institution Report

Program Year: 2008-2009
Process date: 03-01-10 09:31:04
Institution: 59 - Worcester State College
Number of Program Completers: 98

	Institution			Statewide
Test Field/Category	Number Tested	Number Passed	Pass Rate	Pass Rate
Basic Skills				
Communication Literacy Reading	56	56	100%	100%
Communication Literacy Writing	57	57	100%	100%
Aggregate	**57**	**57**	**100%**	**99%**
Academic Content Areas				
Biology	4	--	--	98%
Early Childhood	13	13	100%	98%
English	8	--	--	100%
Foundations of Reading	37	37	100%	99%
General Curriculum	24	24	100%	99%
General Science	2	--	--	100%
History	5	--	--	99%
Mathematics	3	--	--	98%
Middle School Mathematics	2	--	--	100%
Spanish	4	--	--	96%
Aggregate	**102**	**101**	**99%**	**99%**
Other Content Area				
Health Education	1	--	--	100%
Aggregate	**1**	**--**	**--**	**100%**
Summary Totals and Pass Rate	**68**	**67**	**99%**	**98%**

" --" indicates "Number Passed" and "Pass Rate" not shown because "Number Tested" is less than 10.

Early Childhood Education Major

The Early Childhood Education major prepares candidates for the Massachusetts Department of Elementary and Secondary Education Initial License as a teacher of children in public school classrooms, PK through grade 2 or for the Massachusetts Office of Early Education and Care. Both programs of studies are based upon a broad liberal arts foundation and an integrated professional teacher preparation program. A course waiver process is available for transfer students where appropriate. Fieldwork accompanies most education courses and is required and needed as a necessary component of the program. It should be noted that student prepracticum experience should include a wide variety of field settings. Students should attend different and varied schools in urban, rural and suburban settings. They should also vary their placements and grade levels in different school buildings within districts to insure a well rounded experience.

It is understood that if students do not abide by these fieldwork directives, they will be asked to redo their hours for prepracticum.

The Massachusetts Test for Educator Licensure (MTEL) is embedded in the program at various stages and must be passed for completion of the program and licensure.

Early Childhood Education Major Teacher Licensure Program (Massachusetts Public Schools, PK-2)

Requirements for a Major in Early Childhood Education leading to MA Department of Elementary and Secondary Education Initial Licensure (PK-2): 42 credits

ED 148	Foundations of Reading
ED 160	Early Childhood Education Today
ED 206	Young Children, Learning and Special Needs
ED 211	Integrating Science, Social Studies and the Arts into Early Childhood Education Curriculum
ED 286	Assessment of Development and Learning of Typical and Atypical Children
ED 307	ECE: Science
ED 308	ECE: Mathematics
ED 313	Practicum in Preschool Education
ED 314	Early Literacy with Young Children
ED 340	Language Arts and Literacy for the Primary Grades
ED 405	Classroom Management and Child Guidance Techniques in Early Childhood Education
ED 430	Practicum in Primary Education (6 credits)
MA 130	Numbers and Operations for Teachers

Prerequisite Courses:

CD 115	Normal Development of Speech and Language
PS 210	Child Growth and Development

Recommended Courses:

HE 150	Health and Physical Education for the Teacher **OR**
HE 140	Creative Arts and Health
MA 132	Geometry, Measurement, Probability and Statistics for Teachers

Students are required to take specific liberal arts and science courses to satisfy foundation and distribution requirements. See advising program sheets.

Early Childhood Education majors must also complete an academic major in the arts or sciences offered at Worcester State and approved by the Department.

Admission to the Early Childhood Education Major

Early Childhood Education majors seeking the MA Department of Elementary and Secondary Education Initial License will progress through a three-stage process. Each stage must be satisfactorily completed before passage to the next stage.

Stage I: Early Childhood Major

1. Students demonstrate competence in communication skills by completing the following course with a grade of C or higher.

   EN 102 English Composition II (or equivalent)

2. Students must submit a (Criminal Offender Records Information) CORI check application and be approved prior to beginning classroom observations in the Worcester Public Schools. No student is allowed to do fieldwork unless approval of the CORI has been received from the state.

3. Students demonstrate potential for teaching children by completing the following courses with a grade of C+ or higher in ALL prerequisite courses AND a prerequisite AND cumulative GPA of 2.5.

   PS 210 Child Growth and Development
   ED 160 Early Childhood Education Today
   ED 206 Young Children, Learning, and Special Needs
   ED 211 Integrating Science, Social Studies and the Arts in Early Childhood Education
   ED 286 Assessment of Development and Learning of Typical and Atypical Children

4. Students must receive a passing score on the Massachusetts Test for Educator Licensure (MTEL) Communication and Literacy Skills Test.

5. Any departure from the prescribed program of study for teacher licensure must have Waiver Committee approval prior to advancement to Stage II.

Stage II: Early Childhood Education Major

1. Upon satisfactory completion of Stage I requirements, students are eligible to apply for formal admission to the Early Childhood Education Major. The application must include a satisfactory physical examination, Mantoux test results, MTEL test results and transcripts of all previous course work. Approval by the Education Department is necessary for a student to progress to Stage II.

   During Stage II, students must complete the following with a Grade of C+ or higher in ALL prerequisite courses AND a prerequisite AND cumulative GPA of 2.7. Fieldwork accompanies the following methods courses.

   ED 307 ECE: Science
   ED 308 ECE: Math
   ED 313 Practicum in Preschool Education
   ED 314 Early Literacy with Young Children
   ED 340 Language Arts and Literacy for the Primary Grades

2. Students must apply for formal admission into ED 313: Practicum in PK Education. Students must also complete 90 credits prior to taking this course. This application will be reviewed and acted upon by the Licensure Officer. Additional information regarding formal application for the Preschool and Primary Practicum is available from the Education Department.

3. Students must have received a passing score on all portions of the Massachusetts Test for Educator Licensure (Communication and Literacy, Early Childhood, and Foundations of Reading).

Stage III: Early Childhood Education Major – Practicum

1. Upon satisfactory completion of Stage II requirements, students are eligible to apply for formal admission into ED 430: Practicum in Primary Education (Corequisite ED 405).
2. Students must have attained senior standing (90 credits of course work) to complete the Primary Practicum.
3. This application will be reviewed and acted upon by the Licensure Officer.
4. Students convicted of a felony may be denied admission to student teaching.

Additional information regarding formal application for the Preschool and Primary Practicum is available from the Education Department.

Early Education and Care (Non-Licensure)

(Early Intervention, Head Start, Private Preschool, and Group Day Care)
Requirements for Early Education and Care: 33 Credits

ED 160	Early Childhood Education Today
ED 206	Young Children, Learning, and Special Needs
ED 211	Integrating Science, Social Studies and the Arts into ECE Curriculum
ED 286	Assessment of Development and Learning of Typical and Atypical Children
ED 301	ECE: Math and Science
ED 313	Practicum in Preschool Education
ED 314	Early Literacy with Young Children
ED 319	Advanced Field Experience in Early Childhood Education
ED 340	Language Arts and Literacy for the Primary Grades
ED 400	Inclusive ECE
CD 115	Normal Development of Speech and Language

Prerequisite Course:

PS 210	Child Growth and Development

Recommended Courses:

HE 150	Health and Physical Education for the Teacher **OR**
HE 140	Creative Arts and Health
MA 130	Numbers and Operations for Teachers
MA 132	Geometry, Measurement, Probability and Statistics for Teachers

Students are required to take specific liberal arts and science courses to satisfy foundation and distribution requirements. See your advisor and consult degree audit.

Early Education and Care majors must also complete an academic major in the arts or sciences offered at Worcester State and approved by the Department.

Admission to Early Education and Care
Early Education and Care students will progress through a three-stage process. Each stage within this track must be satisfactorily completed before passage to the next stage.

Stage I: Early Education and Care

1. Students demonstrate competence in communication skills by completing the following course with a grade of C or higher.

   EN 102 English Composition II (or equivalent)

2. Students must submit a CORI check application and be approved prior to beginning classroom observations in the Worcester Public Schools. No student is allowed to do fieldwork unless approval of the CORI has been received from the state.

3. Students demonstrate potential for teaching children by completing the following courses with a grade of C+ or higher in ALL prerequisite courses AND a prerequisite AND cumulative GPA of 2.5.

ED 160	Early Childhood Education Today
ED 206	Young Children, Learning, and Special Needs
ED 211	Integrating Science, Social studies and the Arts in Early Childhood Education
ED 286	Assessment of Development and Learning of Typical and Atypical Children

4. Any departure from the prescribed program of study must have Waiver Committee approval prior to advancement to Stage II.

Stage II: Early Education and Care

1. Upon satisfactory completion of Stage I requirements, the student is eligible to apply for formal admission to the Early Education and Care Program. The application must include a satisfactory physical examination, Mantoux test results, and transcripts of all previous course work. Approval by the Education Department is necessary for a student to progress to Stage II.

   During Stage II, students must complete the following with a Grade of C+ or higher in ALL prerequisite courses AND a prerequisite AND cumulative GPA of 2.7 AND a C+ or higher in ED 313.

   Stage II will consist of the following courses. Fieldwork accompanies the following methods courses.

ED 301	ECE: Math and Science
ED 313	Practicum in Preschool Education
ED 314	Early Literacy with Young Children
ED 340	Language Arts and Literacy for the Primary Grades

2. Students must apply for formal admission to ED 313: Practicum in Preschool Education. This application will be reviewed and acted upon by the Licensure Officer. Additional information regarding formal application for the preschool practicum is available from the Education Department.

Stage III: Early Education and Care

1. *ED 319 Advanced Field Experience in Early Childhood Education
   ED 400 Inclusive Early Childhood Education
   *90 credits must be completed prior to taking ED 319. ED 400 should be taken as a corequisite with ED 319.
2. Students must apply for formal admission to ED 319: Advanced Field Experience in Early Childhood Education. This application will be reviewed and acted upon by the Licensure Officer. Additional information regarding formal application for the advanced practicum is available from the Education Department.
3. Electives:

   A course in diversity or the child and the family: May be taken from Education, Psychology, Sociology, or Urban Studies **OR**
   A course in child guidance or behavior management: May be taken from Education, Psychology, Sociology, or Urban Studies.

This program provides preparation for certification through the Department of Early Education and Care as a Lead Teacher for Infant-Toddler or Preschool.

Note: This program does not lead to Massachusetts Department of Elementary and Secondary Education public school licensure.

Elementary Education Major Teacher Licensure Program

The Elementary Education major prepares candidates for Initial Licensure as a teacher of children in a public school classroom, grades 1 through 6. The program of study is based upon a broad liberal arts foundation and an integrated professional teacher preparation program. A course waiver process is available for transfer students where appropriate. Fieldwork accompanies most education courses and is required and needed as a necessary component of the program. It should be noted that student prepracticum experience should include a wide variety of field settings. Students should attend different and varied schools in urban, rural and suburban settings. They should also vary their placements and grade levels in different school buildings within districts to insure a well rounded experience.

It is understood that if students do not abide by these fieldwork directives, they will be asked to redo their hours for prepracticum. The Massachusetts Test for Educator Licensure (MTEL) is embedded in the program at various stages and must be passed for completion of the program and licensure.

Requirements for a Major in Elementary Education: 42 credits

ED 148	Foundations of Reading
ED 155	Teaching and Learning Elementary School
ED 250	Educational Psychology
ED 275	Curriculum and Instruction in Elementary Education
ED 320	Elementary Science
ED 325	Elementary Math
ED 330	Elementary Social Studies & Multiculturalism
ED 343	Elementary Reading Language Arts & Literature
ED 425	Seminar: Applying Educational Principles
ED 435	Student Teaching in the Elementary School
MA 130	Number and Operations for Teachers

Prerequisite Course:

MA 131	Patterns, Functions and Algebra for Teachers
MA 132	Geometry, Measurement, Probability and Statistics for Teachers
PS 210	Child Growth and Development

Recommended Courses:

HE 150	Health and Physical Education for the Teacher or
HE 140	Creative Arts and Health

Students will also be required to take specific liberal arts and science courses to satisfy foundation and distribution requirements.

Elementary Education majors seeking Initial Licensure must also complete an academic major in the arts or sciences offered at the College and approved by the Department.

Admission to the Elementary Education Major

Students planning to major in Elementary Education will progress through a three-stage process. Each stage must be satisfactorily completed before passage to the next stage.

Stage I Elementary Education Major

1. Competence in communication skills as demonstrated by completion of the following course with a grade of C or higher:

   EN 102 English Composition II (or equivalent)

2. Competence in Math with a grade of C or higher in the following courses:

   MA 130 Numbers and Operations for Teachers
   MA 131 Patterns, Functions and Algebra for Teachers
   MA 132 Geometry, Measurement, Probability and Statistics for Teachers

3. Students must submit a Criminal Offender Records Information (CORI) check application and be approved prior to doing classroom observations in Worcester Public Schools. No student is allowed to do fieldwork unless approval of the CORI has been received from the state.

4. Students demonstrate potential for teaching children by completing the following courses with a grade of C+ or higher in ALL prerequisite courses AND a prerequisite AND cumulative GPA of 2.5 (with the exception of Math Concepts).

   PS 210 Child Growth and Development
   ED 155 Teaching and Learning in the Elementary School
   ED 250 Educational Psychology
   ED 275 Curriculum and Instruction in Elementary Education

5. Students must have received a passing score on the Communication and Literacy Skills Test (MTEL).

6. Any departure from the prescribed program of study for teacher licensure must have Waiver Committee approval prior to advancement to Stage II.

Stage II Elementary Education Major

1. Upon satisfactory completion of Stage I requirements, the student is eligible to apply for formal admission to the Elementary Education Major. The application must include a satisfactory physical examination, Mantoux test results, MTEL test results and transcripts of all previous course work. Approval by the Education Department is necessary for a student to progress to Stage II.

2. During Stage II, students must complete the following with a Grade of C+ or higher in ALL prerequisite courses AND a prerequisite AND cumulative GPA of 2.7. Fieldwork accompanies the following methods courses.

   ED 320 Elementary Science
   ED 325 Elementary Math
   ED 330 Elementary Social Studies & Multiculturalism
   ED 343 Elementary Reading, Language Arts and Literature

Stage III Elementary Education Major – Practicum

1. Upon satisfactory completion of Stage II requirements, the student is eligible to apply for formal admission into the Practicum, ED 435 Student Teaching in the Elementary School (Corequisite ED 425).

2. Students must have received a passing score on the Massachusetts Test for Educator Licensure (MTEL) in Communication and Literacy Skills, Foundations of Reading and the new General Curriculum Test for Elementary Majors which includes a separately scored Mathematics subtest.

3. The Stage III application will be reviewed and acted upon by the Licensure Officer.

4. Students must have attained senior standing to student teach.
5. Students convicted of a felony may be denied admission to student teaching.

Any departure from the prescribed program of study for teacher licensure must have approval from the Chair of the Education Department.

Additional information regarding formal application into student teaching is available from the Education Department.

Middle School Education (Grades 5–8) Initial Teacher Licensure Program

Worcester State College offers the Initial Licensure Program in Middle School Education (grades 5-8). The Massachusetts Test for Educator Licensure (MTEL) is embedded in the program at various stages and must be passed for completion of the program and licensure.

Fieldwork accompanies most education courses and is required and needed as a necessary component of the program. It should be noted that student prepracticum experience should include a wide variety of field settings. Students should attend different and varied schools in urban, rural and suburban settings. They should also vary their placements and grade levels in different school buildings within districts to insure a well rounded experience.

The Department of Elementary and Secondary Education offers Initial Licensure programs in the following areas in cooperation with liberal arts and sciences departments in the Worcester State College Education Program.

Teacher of Biology	(5-8)
Teacher of Chemistry	(5-8)
Teacher of English	(5-8)
Teacher of History	(5-8)
Teacher of General Science	(5-8)
Teacher of Health/Family and Consumer Sciences	(5-12)
Teacher of Political Science	(5-8)
Teacher of Mathematics	(5-8)
Teacher of Earth Science	(5-8)
Teacher of Spanish	(5-12)

For required courses in these areas students should consult their liberal arts/science advisor.

It is understood that if students do not abide by these fieldwork directives, they will be asked to redo their hours for prepracticum.

Admission Requirements: Undergraduate Program.

Students planning to minor in Middle Education will progress through a three-stage process. Each stage must be completed satisfactorily prior to passage to the next stage. **It is expected that students will major in one of the Liberal Arts and Science content areas.**

Stage I: Middle School Education Minor

1. Completion of EN 102 English Composition II with a grade of C or higher.
2. Completion of 15 semester hours in the subject major.
3. Students must submit a Criminal Offender Records Information (CORI) check application and be approved prior to doing observations for Education courses. No

student is allowed to do fieldwork unless approval of the CORI has been received from the state

4. Students demonstrate potential for teaching children by completing the following courses with a grade of C+ or higher in ALL prerequisite courses AND a prerequisite AND cumulative GPA of 2.5.

ED 149	Introduction to the Teaching Profession (10 hours fieldwork)
PS 215	Psychology of Adolescence
ED 250	Educational Psychology (10 hours fieldwork)
ED 251	Foundations of Education (15 hours fieldwork)
ED 270	Diversity and Multicultural Education (15 hours fieldwork)

5. Students must have received a passing score on the Massachusetts Test for Educator Licensure (MTEL) Communication and Literacy Skills Test.

6. Any departure from the prescribed program of study for teacher licensure must have Waiver Committee approval prior to advancement to Stage II.

Stage II: Middle School Education Minor

1. Upon satisfactory completion of Stage I requirements, the student is eligible to apply for formal admission into the middle school education minor. The application must include a satisfactory physical examination, Mantoux test results, MTEL test results and transcripts of all previous course work. Approval by the Education Department is necessary for a student to progress to Stage II.

2. During Stage II, students must complete the following with a Grade of C+ or higher in ALL prerequisite courses AND a prerequisite AND cumulative GPA of 2.7. Fieldwork accompanies the following methods courses.

ED 352	Principles of Curriculum and Evaluation in the Middle School (20 hours fieldwork)
ED 354	Effective Teaching in the Middle School (25 hours fieldwork)
ED 370	Contemporary Issues and Trends in Middle School Education

3. Students must have received a passing score on the Massachusetts Test for Educator Licensure (MTEL) in their major subject area and communication and literacy skills.

Stage III: Middle School Education Minor – Practicum

1. Upon satisfactory completion of Stage II requirements, the student is eligible to apply for:

   ED 485 Practicum in Teaching Middle School (9 credits)
   ED 424 Seminar (3 credits)

2. Students must have attained senior standing to student teach.

3. The Stage III application will be reviewed and acted upon by the Licensure Officer.

4. Students convicted of a felony may be denied admission to student teaching.

Additional information regarding formal application into student teaching is available from the Education Department.

Admission to the program does not guarantee student teaching eligibility.

Secondary School Education (Grades 8–12) Initial Teacher Licensure Program

Worcester State College offers the Initial Licensure in Secondary School Education (grades 8-12). The Massachusetts Test for Educator Licensure (MTEL) is embedded in the program at various stages and must be passed for completion of the program and licensure.

Fieldwork accompanies most education courses and is required and needed as a necessary component of the program. It should be noted that student prepracticum experience should include a wide variety of field settings. Students should attend different and varied schools in urban, rural and suburban settings. They should also vary their placements and grade levels in different school buildings within districts to insure a well rounded experience.

The Department of Elementary and Secondary Education offers Initial Licensure programs in the following areas in cooperation with the liberal arts and sciences departments in the Worcester State College Education Program.

Teacher of English	(8-12)
Teacher of History	(8-12)
Teacher of Political Science	(8-12)
Teacher of Mathematics	(8-12)
Teacher of Chemistry	(8-12)
Teacher of Biology	(8-12)
Teacher of Earth Science	(8-12)
Teacher of Health/Family and Consumer Sciences	(5-12)
Teacher of Spanish	(5-12)

For required courses in these areas, students should consult their liberal arts/science advisor.

It is understood that if students do not abide by these fieldwork directives, they will be asked to redo their hours for prepracticum.

Admission Requirements: Undergraduate Program.

Students planning to minor in Secondary Education will progress through a three-stage process. Each stage must be completed satisfactorily prior to passage to the next stage. **It is expected that students will major in one of the Liberal Arts and Science content areas.**

Stage I: Secondary School Education Minor

1. Completion of EN 102 English Composition II with a grade of C or higher.
2. Completion of 15 semester hours in the subject major.
3. Students must submit a Criminal Offender Records Information (CORI) check application and be approved prior to doing observations for Education courses. No student is allowed to do fieldwork unless approval of the CORI has been received from the state.
4. Students demonstrate potential for teaching children by completing the following courses with a grade of C+ or higher in ALL prerequisite courses AND a prerequisite AND cumulative GPA of 2.5.

ED 149	Introduction to the Teaching Profession (10 hours fieldwork)
PS 215	Psychology of Adolescence
ED 250	Educational Psychology (10 hours fieldwork)

ED 251 Foundations of Education (15 hours fieldwork)
ED 270 Diversity and Multicultural Education (15 hours fieldwork)

5. Students must have received a passing score on the Massachusetts Test for Educator Licensure (MTEL) Communication and Literacy Skills Test.
6. Any departure from the prescribed program of study for teacher licensure must have Waiver Committee approval prior to advancement to Stage II.

Stage II: Secondary School Education Minor

1. Upon satisfactory completion of Stage I requirements, the student is eligible to apply for formal admission into the Secondary School Education minor. The application must include a satisfactory physical examination, Mantoux test results, MTEL test results and transcripts of all previous course work. Approval by the Education Department is necessary for a student to progress to Stage II.
2. During Stage II, students must complete the following with a Grade of C+ or higher in ALL prerequisite courses AND a prerequisite AND cumulative GPA of 2.7. Fieldwork accompanies the following methods courses:

ED 351 Principles of Curriculum and Evaluation in the Secondary School (20 hours fieldwork)
ED 353 Effective Teaching in the Secondary School (25 hours fieldwork)
ED 371 Contemporary Issues and Trends in Secondary School Education

3. Received a passing score on the Massachusetts Test for Educator Licensure (MTEL) in their major subject area and communication and literacy skills.

Stage III: Secondary School Education Minor – Practicum

1. Upon satisfactory completion of Stage II requirements, the student is eligible to apply for:
   ED 480 Practicum in Teaching Secondary School (9 credits)
   ED 424 Seminar (3 credits)
2. Students must have attained senior standing to student teach.
3. The Stage III application will be acted upon by the Licensure Officer.
4. Students convicted of a felony may be denied admission to student teaching.

Additional information regarding formal application into student teaching is available from the Education Department.

Admission to the program does not guarantee student teaching eligibility.

Education Courses (Undergraduate)

For information on the Liberal Arts and Sciences Curriculum (LASC), see page 36

MOST EDUCATION COURSES REQUIRE FIELDWORK

ED 148 Introduction to the Foundations of Reading

This course provides an opportunity for prospective elementary and early childhood level teachers to acquire a strong foundation in current knowledge, perspective and procedures for teaching literacy in grades PK through 6.
Offered every year. 3 credits.

ED 149 Introduction to the Teaching Profession. Middle/Secondary School

LASC— Human Behavior and Social Processes

This course will provide a basic understanding to the teaching aspects in middle and secondary classrooms. It will explore the Massachusetts Department of Education Professional Standards for Teachers and give students a general orientation to the profession. Principles of the teaching/learning process and related skills will be addressed, in addition to observable behaviors in the classroom setting(s). Students will be required to do 10 fieldwork observation hours in an accredited middle/secondary school.

Offered every year. 2 credits. Fieldwork: 10 hrs.

ED 155 Teaching & Learning in Elementary School

LASC—Individual and Community Well-being

Overview of the teaching profession, examination of a variety of learning environments, organizing and managing classrooms, integrating curricula, observational techniques.
Offered every year. 3 credits. Fieldwork: 15 hrs.

ED 160 Early Childhood Education Today

LASC— Human Behavior and Social Processes

Exploration of programs, emphasizing developmentally appropriate practice, creativity motor skills. Discussion of families, community resources, play, integration of special needs.
Offered every year. 3 credits. Fieldwork: 12 hrs.

ED 193 Special Topics in Education for First-year Students

All "193" classes are approved for LASC but may vary by section. See current course listing for specific LASC area approval.

Introductory level course covering topics of special interest to first-year students. Offered only as a First-year Seminar.
Offered every year. 3 credits.

ED 206 Young Children, Learning and Special Needs

LASC—Individual and Community Well-being; Diversity Across the Curriculum

Prerequisites: PS 210, ED 160

Analysis of development and learning based on current psychological theory. Structuring experiences to foster progress for typical and atypical children.
Offered every year. 3 credits. Fieldwork: 15 hrs.

ED 211 Integrating Science, Social Studies and the Arts in Early Childhood Curriculum

Prerequisites: PS 210, ED 160, ED 206

Designing and implementing programs, physical environment, regulations, planning, Massachusetts Curriculum Frameworks. Students design integrated units and implement activities.
Offered every year. 3 credits. Fieldwork: 12 hrs.

ED 250 Educational Psychology Elementary

Prerequisite: PS 210

Learning and developmental processes of typical and atypical learners. Motivation, relationships of intelligence, affect, and achievement. Application to teaching and learning.
Offered every year. 3 credits. Fieldwork: 10 hrs.

ED 250 Educational Psychology. Middle and Secondary Majors

Prerequisite: PS 215

Learning and developmental processes of typical and atypical learners. Motivation, relationships of intelligence, affect, and achievement. Application to teaching and learning.
Offered every year. 3 credits. Fieldwork: 10 hrs.

ED 251 Foundations of Education

Prerequisites: PS 215, ED 250

Critical examination of social, psychological, and philosophical factors, which underlie educational thought and practices in America, noting relevant historical antecedents.
Offered every year. 3 credits. Fieldwork: 15 hrs.

ED 270 Diversity and Multicultural Education

Prerequisites: PS 215 and ED 251, ED 250

Analysis of goals, values and practices in educating culturally diverse student populations. Includes bilingual, special needs and gifted students.
Category 1. 3 credits. Fieldwork: 15 hrs.

ED 275 Curriculum and Instruction in Elementary Education

Prerequisites: ED 155, ED 250, and PS 210

Analysis of interactions in effective elementary schools through participation in and exploration of curriculum, teaching and learning roles. Field experience.
Offered every year. 3 credits. Fieldwork: 10 hrs.

ED 286 Assessment of Development and Learning of Typical and Atypical Children

Prerequisites: PS 210, ED 160, ED 206, ED 211

Development of skills to asses young children and identify special needs. Focus on child development and Massachusetts Curriculum Frameworks.
Offered every year. 3 credits. Fieldwork: 5 hrs.

ED 301 ECE: Math and Science

Prerequisite: Admitted into Stage II

Focus on early mathematical education and inquiry-based science program for young children in an integrated curriculum.
Offered every year. 3 credits.

ED 307 ECE: Science

Prerequisite: Admitted into Stage II

Teaching strategies that focus upon exploration, discovery, problem solving, experimentation, Piagetian theory. Addresses nationally recognized science education curricula guidelines.
Offered every year. 3 credits. Fieldwork: 10 hrs.

ED 308 ECE: Math

Prerequisite: Admitted into Stage II

Focus on Piaget's early mathematical theory. Techniques include teaching pre-math skills, logical mathematical knowledge, formal math using developmentally appropriate materials.
Offered every year. 3 credits. Fieldwork: 10 hrs.

ED 313 Practicum in Early Childhood Education: Preschool/Kindergarten

Prerequisites: Admitted into Stage II, Senior Status

150 hour practicum in an NAEYC accredited preschool/kindergarten/licensed day care center. Student apply content, methods, and materials from college courses.
Offered every year. 3 credits.

ED 314 Early Literacy with Young Children

Early literacy skills, content and approaches include construction of meaning with written and spoken language, written language forms and functions, letter-sound relationship, phonemic awareness, vocabulary development and assessment. Methods of teaching second language are included.
Offered every year. 3 credits.

ED 317 ECE: Early Literacy, Children's Literature, and Language Arts

Prerequisite: Admitted into Stage II

Content, curriculum, materials, approaches to early literacy for all children. Includes whole language, comprehension, progress writing, beginning reading, and integrated literature.
Offered every year. 6 credits. Fieldwork: 20 hrs.

ED 319 Advanced Field Experience in Early Childhood Education

Prerequisite: ED 313 or equivalent

Students who have already completed a preschool practicum complete an additional 100-150 hour field experience in Early Childhood Education.
Offered every year. 3 credits.

ED 320 Elementary Science

Prerequisite: Admitted into Stage II

Thematically taught emphasizing engaging hands-on activities, constructivism, cooperative learning, authentic assessments, integrated curriculum, and relationships between Science, Math and Technology Curriculum Frameworks.
Offered every year. 3 credits. Fieldwork: 10 hrs.

ED 325 Elementary Math

Prerequisite: Admitted into Stage II

Emphasizes best practices in mathematics education, the role of conceptual knowledge in understanding mathematics, material development and assessment.
Offered every year. 3 credits. Fieldwork: 10 hrs.

ED 330 Elementary Social Studies and Multiculturalism

Prerequisite: Admitted into Stage II

Goals, curriculum, skills, issues, teaching strategies in educating culturally diverse population in a global context.
Offered every year. 3 credits. Fieldwork: 10 hrs.

ED 339 Children's Literature

Facets of literature for children and criteria for the selection of each; techniques and preparation and use.
Offered every year. 3 credits

ED 340 Language Arts and Literacy for the Primary Grades

Early literacy/language arts content, curriculum materials, and approaches including phonological awareness, phonics, vocabulary, fluency, comprehension, writing and assessment.
Offered every year. 3 credits

ED 343 Elementary Reading, Language Arts and Literature

Prerequisite: Admitted into Stage II

Stresses interrelationships of oral/written communication; investigates concepts, skills and procedures for teaching literacy and using children's literature in grades 1-6.
Offered every year. 6 credits. Fieldwork: 20 hrs.

ED 351 Principles of Curriculum and Evaluation in the Secondary School

Prerequisite: Admitted into Stage II

Basic considerations in curriculum planning and implementation are examined. The role of evaluation and the design and use of assessment instruments are emphasized.
Offered every year. 3 credits. Fieldwork: 20 hrs.

ED 352 Principles of Curriculum and Evaluation in the Middle School

Prerequisite: Admitted into Stage II

Examines factors in curriculum planning and implementation at the middle school level. Evaluation models are presented and the design and use of assessment instruments are emphasized.
Offered every year. 3 credits. Fieldwork: 20 hrs.

ED 353 Effective Teaching in the Secondary School

Prerequisite: Admitted into Stage II

Considers teaching techniques in various disciplines using a variety of instructional strategies and teaching aids. Analyzes effective classroom management.
Offered every year. 3 credits. Fieldwork: 25 hrs.

ED 354 Effective Teaching in the Middle School

Prerequisite: Admitted into Stage II

Considers a variety of instructional designs including team teaching, horizontally integrated curriculum, and effective classroom management.
Offered every year. 3 credits. Fieldwork: 25 hrs.

ED 370 Contemporary Issues and Trends in Middle School Education

Prerequisite: Admitted into Stage II

This course is designed to give students opportunities to examine contemporary issues, trends, controversies, theories and practices in education. Students will engage in extensive reading, internet search and reflection on critical aspects of contemporary issues. The main focus of this course is on the implications of these initiatives for classroom teachers: efficient classroom practices, instructional planning and implementation, the use of modern technology, assessment procedures, classroom management, professional ethics, etc. The primary goal is to help students clarify how contemporary issues can lead to educational reforms and teaching excellence.
Offered every year. 3 credits.

ED 371 Contemporary Issues and Trends in Secondary School Education

Prerequisite: Admitted into Stage II

This course is designed to give students opportunities to examine contemporary issues, trends, controversies, theories and practices in education. Students will engage in extensive reading, internet search and reflection on critical aspects of contemporary issues. The main focus of this course is on the implications of these initiatives for classroom teachers: efficient classroom practices, instructional planning and implementation, the use of modern technology, assessment procedures, classroom management, professional ethics, etc. The primary goal is to help students clarify how contemporary issues can lead to educational reforms and teaching excellence.
Offered every year. 3 credits.

ED 399 Working with Diverse Families and Children: Birth through Preschool

Prerequisite: Admitted into Stage II

Early intervention policies and procedures, developing and implementing Individual Family Service Plans, working with families and children from diverse cultures.
Offered every year. 3 credits.

ED 400 Inclusive Early Childhood Education: Preschool through Grade 2

Prerequisite: Admitted into Stage III

Special education law and procedures, modification of programs for English language learners, working with parents, and developing and implementing an anti-bias curriculum.
Offered every year. 3 credits.

ED 405 Classroom Management and Child Guidance Techniques

Prerequisite: Admitted into Stage III

Guided analysis/application of principles for students completing a primary practicum. Analysis of behavior, group and individual management strategies.
Offered every year. 3 credits.

ED 410 Special Topics

Prerequisite: ED 155 or equivalent

A seminar course on current issues or topics in education.
Offered every 2 years. 3 credits.

ED 424 Seminar: Teaching Practicum

Prerequisite: Admitted into Stage III

Implications of the attempts to juxtapose theory and practice are analyzed from the viewpoint of becoming a professional teacher.
Offered every year. 3 credits.

ED 425 Seminar: Applying Educational Principles

Prerequisite: Admitted into Stage III

Guided analyses and applications of principles and procedures for students completing their practicum.
Offered every year. 3 credits.

ED 430 Practicum in Early Childhood Education: Grade 1 or Grade 2

Prerequisite: Admitted into Stage III

Semester-long 200-hour practicum in first or second grade. Planning, implementing, evaluating learning. Setting includes children with special needs.
Offered every year. 6 credits.

ED 435 Student Teaching in the Elementary School

Prerequisite: Admitted into Stage III

Actual teaching in a local school: principles, techniques, and responsibility of planning, executing, and evaluating teaching and learning for a full semester.
Offered every year. 9 credits. 300 hr. Practicum.

ED 450 Independent Study in Education

Prerequisite: Consent of instructor

For the student who wishes to pursue independent study in education, faculty members from other disciplines may be called upon to counsel student.
Offered every year. 1-6 credits.

ED 475 Practicum in Teaching

Prerequisite: Admitted into Stage III

Actual teaching in a local school: principles, techniques, and responsibility of planning, executing, and evaluating teaching and learning for a full semester.
Offered every year. 9 credits.

ED 480 Practicum in Teaching Secondary School

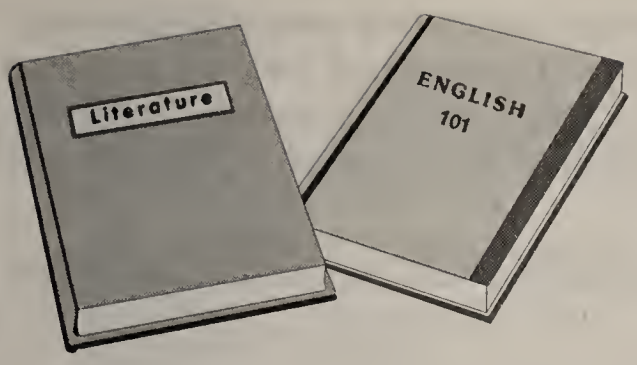
Prerequisite: Admitted into Stage III

Full semester teaching experience in a secondary school. Includes planning, teaching and evaluating learning experiences.
Offered every year. 9 credits. 300 hr. Practicum.

ED 485 Practicum in Teaching Middle School

Prerequisite: Admitted into Stage III

Full semester teaching experience in a middle school. Includes planning, teaching and evaluating learning experiences.
Offered every year. 9 credits. 300 hr. Practicum.



English
Department of English

Faculty

Elizabeth Bidinger, Assistant Professor (2007)
A.B., University of Michigan; M.A., Boston University; Ph.D., University of Connecticut

Philip J. Burns, Professor (1990)
B.A., Miami University; M.A., Indiana University, Bloomington;
Ph.D., University of Rhode Island

James E. Foley, Associate Professor (1999)
B.A., Tufts University; M.A., Ph.D., Indiana University, Bloomington

Ruth P. Haber, Associate Professor (1989)
B.A., M.A., Ph.D., University of California, Santa Barbara

Dennis Quinn, Professor (1996), Department Chair
B.A., Worcester State College; M.A., Assumption College;
Ph.D., University of Massachusetts

Josna E. Rege, Associate Professor (2006)
B.A., Harvard University; M.A., Ph.D., University of Massachusetts, Amherst

MaryLynn Saul, Professor (1995)
B.S., M.A., Ph.D., Ohio State University

Richard E. Sullivan, Associate Professor (1968)
A.B., Providence College; M.A., Boston College

Charles Wasilko, Associate Professor (1970)
A.B., Dickinson College; M.A., Harvard University

Karen Woods Weierman, Associate Professor (2000)
B.A., Georgetown University; Ph.D., University of Minnesota

Sharon R. Yang, Professor (1999)
B.A., University of Massachusetts, Lowell; M.A., Clark University;
Ph.D., University of Connecticut

The principal objectives of the English program are to help students to communicate clearly, logically and effectively; to use research methods intelligently; to analyze, interpret and enjoy literature; and to develop a perspective on the world that is informed by intensive study of literature and its critical methods. The program also seeks to familiarize students with the classics of world literature, emphasizing the major authors, works and literary movements which distinguish English and American literature. At the same time, the program seeks to introduce students to "alternative voices" in literature,

voices that are new to the literary canon or that occupy a literary space outside of it. The intellectual growth of majors is carefully nurtured to ensure that they are prepared for diverse career paths, scholarly research, and success in graduate school. Moreover, reflecting the institution's historical mission, the English program provides guidance and support for future teachers of English.

Requirements for a Major: 36 credits in English (exclusive of EN 101 and EN 102) which must include the following:

EN 210	Survey of American Literature I or
EN 211	Survey of American Literature II
EN 220	Survey of English Literature I
EN 221	Survey of English Literature II
EN 255	Methods of Literary Studies
EN 360	Shakespeare I

Electives: 21 credits in English (including a minimum of 12 credits in 300 or 400 level literature courses).

Students declaring English as a major must demonstrate a competency in a foreign language at the intermediate level.

Requirements for a Major in English, Concentration in Writing: 15 credits in writing courses (exclusive of EN 101 and EN 102) in addition to the 15 credits in Shakespeare (EN 360); surveys (EN 210 or EN 211; EN 220 and EN 221), and EN 255 required of all majors. The remaining 6 credits must be literature electives at the 300-level or above. The 15 credits in writing will be selected from the following:

EN 250	Creative Thinking and Critical Writing
EN 251	Advanced Expository Writing
EN 252	Technical Writing
EN 253	Business Communications
EN 256	Creative Writing: Fiction
EN 258	Creative Writing: Nonfiction
EN 260	Creative Writing: Poetry I
EN 262	Creative Writing: Poetry II
EN 266	Journalism: Practice and Techniques
EN 267	Journalism: Advanced Newswriting
EN 268	Journalism: Feature Writing
EN 269	Journalism: Interpretive Reporting
EN 270	Journalism: Editing
EN 271	Journalism: Workshop
EN 272	News Reporting and Writing I
EN 281	Web Authoring and Publication
EN 351	News Reporting and Writing II
EN 352	Practicum in Journalism
EN 353	Narrative Journalism
EN 354	Opinion Writing
EN 411	Theory and Teaching of Writing
EN 415	Technology and the Teaching of Writing
CM 366	Scriptwriting

A 3-6 credit internship in writing, whether in English (EN410 or EN 475) or other languages (FR 475 or SP 475)

Requirements for a Major in English, Concentration in Journalism: In addition to taking the required courses for the English major and two 300- or 400-level literature electives, students choosing the journalism concentration must take five journalism courses comprised of three required courses and two electives.

The required journalism courses are the following:

EN 107	Jounalism and Democracy
EN 272	News Reporting and Writing I
EN 416	Media Law and Ethics

The elective journalism courses are the following:

EN 268	Feature Writing
EN 270	Editing
EN 351	News Reporting and Writing II
EN 352	Practicum in Journalism
EN 353	Narrative Journalism
EN 354	Opinion Writing
EN 475	Internship in English (under supervision of faculty member who teaches journalism)

Prerequisites: EN 102 English Composition II (or equivalent LASC course), EN 107 Journalism and Democracy, and EN 272 News Reporting and Writing I are prerequisites for every journaiism course except EN 270 Editing, which has only EN 102 English Composition II (or equivalent LASC course) as a prerequisite.

Women's Studies: English majors may elect an interdisciplinary concentration in women's studies. They must complete the requirements for the standard English major. They must have 15 credits in women's studies courses, with the English courses among them counting toward the major. For more information, see the Women's Studies section of this catalog.

Requirements for a Minor: 18 credits in English (exclusive of EN 101 and EN 102) which must include the following:

EN 210	Survey of American Literature I or
EN 211	Survey of American Literature II
EN 220	Survey of English Literature I
EN 221	Survey of English Literature II

English electives: 9 credits

The Writing Center

Worcester State's Writing Center is located in Sullivan 306. Staffed by graduate assistants and peer tutors, the Writing Center's offerings include individual writing tutorials for undergraduate and graduate students; reference material and workshops to help candidates prepare for the Massachusetts Teacher Test; writing across the curriculum resource material for Worcester State faculty; and online tutorials for a wide range of technology-based subjects.

The Writing Center is fully connected to the campus network and the World Wide Web. The Worcester State OWL (Online Writing Lab), the Writing Center's online community, hosts a varied collection of reference materials useful for both the academic and business writer. In addition, faculty, students, and members of the greater Worcester community submit their work online and receive feedback and support within 72 hours.

Sessions with Writing Center staff can be arranged on an appointment, drop-in, or online basis, and all services are offered at no charge. For more information, visit the OWL at the following web address: http://wwwfac.worcester.edu/owl.

English Honor Society:

Lambda Iota Tau, an international honor society in literature, is available to outstanding junior and senior English majors and minors.

English Courses (Undergraduate)

For information on the Liberal Arts and Sciences Curriculum (LASC), see page 36

EN 101 English Composition I

LASC—Writing I

Students learn to address audience and purpose as they develop an effective writing process. Instruction and practice in the process of composing expository essays. Emphasis on planning, drafting, revising and editing. [Required of all students unless exempted by the English Department.]
Offered every year. 3 credits.

EN 102 English Composition II

LASC—Writing II

Focuses on formal academic discourse and research methods, providing a foundation for writing in academic disciplines. A continuation of EN 101. Emphasis on critical thinking, stylistic analysis, argumentation, research and documentation. [Required of all students unless exempted by the English Department.]
Offered every year. 3 credits.

EN 105 Introduction to Literature

LASC—Thought, Language and Culture

A critical introduction to the principal genres of literature: poetry, drama, and fiction.
Offered every year. 3 credits.

EN 107 Journalism and Democracy

This course introduces students to the history of American journalism and the role of journalism in democratic and non-democratic societies.
Offered every year. 3 credits.

EN 130 Ancient Classics of Western Literature

LASC—Thought, Language and Culture

Greek and Roman literary masterpieces in translation, including Homer, Greek tragedy, Plato, Virgil and Roman comedy and satire.
Offered every 2 years. 3 credits.

EN 131 Great Works of Western Literature, Medieval to Modern

Continental masterpieces of the last millennium in translation by such writers as Dante, Cervantes, Voltaire, Dostoevsky, Baudelaire, and Kafka.
Offered every 2 years. 3 credits.

EN 132 World Literature: Survey of Asian, African and Latin American Literature

LASC—Global Perspectives; Thought, Language and Culture; Diversity Across the Curriculum

Representative poems, stories, plays, both ancient and modern, from Asia, Africa, and Latin America.
Offered every year. 3 credits.

EN 140 Introduction to Poetry

LASC—Thought, Language and Culture

Examination and appreciation of the techniques and types of poetry including the sonnet, the pastoral, the mock heroic, and the ode.
Offered every year. 3 credits.

EN 145 Introduction to Drama

LASC—Thought, Language and Culture

Theories and development of tragedy and comedy; plays of Sophocles to Eugene O'Neill as illustrations of these and related genres.
Offered every year. 3 credits.

EN 150 The Short Story

LASC—Thought, Language and Culture

Introduction to the art of the short story through analysis of representative works.
Offered every year. 3 credits.

EN 152 The Novelette

The major practitioners of the novelette over the past century: Conrad, Mann, Kafka, Dostoyevsky, and others.
Offered every 3 years. 3 credits.

EN 156 Mythology

Myths and legends of ancient Greece and Rome which form a part of the classical tradition in English literature.
Offered every year. 3 credits.

EN 158 Science Fiction

LASC—Thought, Language and Culture

The nature and function of nineteenth- and twentieth-century science fiction literature: Wells, Verne, Asimov, Bradbury, and others.
Offered every 2 years. 3 credits.

EN 160 The Literature of the Bible

LASC—Thought, Language and Culture

Biblical writings. Emphasis will be placed on the Old Testament.
Offered every 2 years. 3 credits.

EN 164 Fantasy, Faerie and Folk

LASC—Thought, Language and Culture

Recurrent themes, literary characteristics, and structure of folktales, faerie and fantasy.
Offered every 2 years. 3 credits.

EN 167 Literature and Human Rights

LASC—Global Perspectives; Human Behavior and Social Processes; Diversity Across the Curriculum

An analysis of international creative writing dealing with the subject of human rights. Resource persons from different fields will be utilized.
Offered every 3 years. 3 credits.

EN 168 Film and Literature

An examination of the fundamental, rhetorical techniques of film and literature to determine the similarities of and differences between the two forms of expression.
Offered every 2 years. 3 credits.

EN 169 Ethnic Literature in the U.S.

LASC—Thought, Language and Culture; United States and Its Role in the World; Diversity Across the Curriculum

Study of ethnic Literature in the U.S., focusing on African-American, Asian-American, Latino, and Native American writers
Offered every year. 3 credits

EN 170 The Search for Identity: Literature of Self-Discovery

LASC— Thought, Language and Culture; Diversity Across the Curriculum

Understanding the nature and power of fiction, the relation between problems of individual identity, and the operation of the imagination.
Offered every 3 years. 3 credits.

EN 172 Women and Literature

Explores basic issues and problems in literature by and about women.
Offered every 2 years. 3 credits.

EN 174 Women Poets

A close reading and analysis of poetry written by women from a historical as well as a contemporary feminist perspective.
Offered every 3 years. 3 credits.

EN 190 Special Readings in Literature

An introductory literature course responsive to current interests or controversies.
Offered every year. 3 credits.

EN 193 Special Topics in English for First-year Students

All "193" classes are approved for LASC but may vary by section. See current course listing for specific LASC area approval.

An introductory level course covering topics of special interest to first-year students. Offered only as a First-year Seminar.
Offered every year. 3 credits.

EN 210 Survey of American Literature I

Prerequisite: EN 102

American literature, beginnings to the Civil War; colonial and federal periods, and the transcendentalists.
Offered every year. 3 credits.

EN 211 Survey of American Literature II

Prerequisite: EN 102

American literature since the Civil War; naturalism and realism.
Offered every year. 3 credits.

EN 220 Survey of English Literature I

Prerequisite: EN 102

The development of English literature from the beginnings to 1798. Required of all English majors.
Offered every year. 3 credits.

EN 221 Survey of English Literature II

Prerequisite: EN 102

The development of English literature from 1798 to the present. Required of all English majors.
Offered every year. 3 credits.

EN 230 Environmental Themes in Literature

This class explores environmental issues as presented in poetry, essays and novels, including such writers as Thoreau, Hemingway and Ann Tyler.
Offered every 3 years. 3 credits.

EN 250 Creative Thinking and Critical Writing

LASC—Thought, Language and Culture; Writing Across the Curriculum

This course promotes critical and creative thinking through exploring viewpoints of different professions, cultures and eras in various textual forms.
Offered every year. 3 credits.

EN 251 Advanced Expository Writing

Prerequisite: EN 102

Instruction and practice in writing expository essays. Analysis of selected readings on a common theme or subject area.
Offered every 3 years. 3 credits.

EN 252 Technical Writing

LASC—Writing Across the Curriculum

Prerequisite: EN 102

Focuses on how to write and produce basic documents, from research and progress reports to brochures and manuals.
Offered every year. 3 credits.

EN 253 Business Communications

Prerequisite: EN 102

A consideration of accepted business communication conventions; correspondence, memoranda, survey reports, proposals, interim reports, and project reports. [Open to Business Administration majors only.]
Offered every year. 3 credits.

EN 255 Methods of Literary Studies

LASC—Thought, Language and Culture

Prerequisite: EN 102

Introduction to critical methods of interpreting literature through examination of works by major authors.
Offered every year. 3 credits.

EN 256 Creative Writing: Fiction

LASC—Creative Arts

Prerequisite: EN 102

An opportunity to develop the student's writing ability and critical sense; work of students and professional authors will be analyzed.
Offered every year. 3 credits.

EN 258 Creative Writing: Nonfiction

LASC—Creative Arts

Prerequisite: EN 102

A course focused on memoir and narrative journalism; students analyze and create short works of nonfiction.
Offered every 2 years. 3 credits.

EN 260 Creative Writing: Poetry I

LASC—Creative Arts; Thought, Language and Culture

Prerequisite: EN 102

Developing the student's skill in the creation of poetry; attention to contemporary trends in American poetry.
Offered every year. 3 credits.

EN 262 Creative Writing: Poetry II

LASC—Creative Arts

Prerequisite: EN 102

Conversation with practicing poets; preparation of a small booklet of poems. EN 260 is not required as a prerequisite.
Offered every year. 3 credits.

EN 266 Journalism: Practice and Techniques

Prerequisite: EN 102

Training in developing, reporting, writing, and editing straight news, feature, profile, and interpretive stories.
Offered every year. 3 credits.

EN 267 Journalism: Advanced Newswriting

Prerequisite: EN 102

Provides advanced training in the development and writing of straight news stories.
Offered every 3 years. 3 credits.

EN 268 Journalism: Feature Writing

Prerequisite: EN 102

Provides advanced training in finding, researching, developing, and writing feature stories for newspapers and magazines.
Offered every 3 years. 3 credits.

EN 269 Journalism: Interpretive Reporting

Prerequisite: EN 102

Provides advanced training in developing and writing profiles and interpretive stories.
Offered every 3 years. 3 credits.

EN 270 Journalism: Editing

Prerequisite: EN 102

Training in copy selection, copy editing, story placement, headline writing, layout, and use of style books.
Offered every 3 years. 3 credits.

EN 271 Journalism Workshop

Prerequisite: EN 102

Provides lab sessions in all aspects of journalism for advanced writers; emphasis on publication.
Offered every 3 years. 3 credits.

EN 272 News Reporting and Writing I

Prerequisites: EN 102 & EN 107

Includes fundamentals of news judgment, events coverage, sourcing, interviewing, writing on deadline, fact checking and basic editing.
Offered every year. 3 credits.

EN 281 Web Authoring and Publication

An introduction to web authoring and publication, with special emphasis on the conventions of digital discourse.
Offered every 2 years. 3 credits.

EN 300 History of the English Language

Prerequisite: EN 102

A study of the origins of the English language from Old English through Middle English to the present.
Offered every year. 3 credits.

EN 302 Medieval Literature

The course exams genres in medieval literature, such as drama, poetry, debate, prose and riddles.
Offered every 3 years. 3 credits.

EN 303 Arthurian Literature

This course traces the development of the Arthurian legends from their Celtic origins up through the modern period.
Offered every 3 years. 3 credits.

EN 306 The Renaissance

Prerequisite: EN 102

The non-dramatic literature of Tudor England; emphasis on More, Wyatt, Sidney, Spenser, the earlier works of Shakespeare, Donne, and Bacon.
Offered every 3 years. 3 credits.

EN 308 Seventeenth-Century Literature

Prerequisite: EN 102

Prose and poetry of the era with special attention to the major works of Jonson and Donne.
Offered every 3 years. 3 credits.

EN 310 Eighteenth-Century Literature

Prerequisite: EN 102

The major figures of the Enlightenment with particular emphasis on satire: Dryden, Pope, Swift, Johnson, and Boswell.
Offered every 3 years. 3 credits.

EN 311 Young Adult Literature

Prerequisite: EN 102 or EN 250

Theoretical and critical approaches to classic and contemporary texts written for young adults aged pre-teen to late teen.
Offered every 3 years. 3 credits.

EN 312 The English Novel of the Eighteenth Century

Prerequisite: EN 102

Purpose, range, and developments in the novel of the eighteenth century: Defoe, Richardson, Fielding, Smollett, Sterne, and others.
Offered every 3 years. 3 credits.

EN 314 The English Novel of the Nineteenth Century

Prerequisite: EN 102

Representative nineteenth-century novelists: Austen, Bronte, Dickens, Thackeray, Eliot, Hardy, Conrad, and others.
Offered every 3 years. 3 credits.

EN 316 The Modern British Novel

Prerequisite: EN 102

Selected works of major British novelists from 1900 through World War II: Joyce, Lawrence, Woolf, Forster, and others.
Offered every 3 years. 3 credits.

EN 318 Romantic Literature

Prerequisite: EN 102

Poetry and prose with special emphasis on the poetry of Blake, Wordsworth, Coleridge, Shelley, Byron, and Keats.
Offered every 3 years. 3 credits.

EN 320 Victorian Literature

Prerequisite: EN 102

Study of selected prose and poetry of the major writers of the Victorian period.
Offered every 3 years. 3 credits.

EN 324 Continental Novelists I

Prerequisite: EN 102

European novelists of the nineteenth and twentieth centuries including Dostoyevsky, Mann, Camus, and others.
Offered every 3 years. 3 credits.

EN 330 Modern Drama

Prerequisite: EN 102

The theories and development of realism, naturalism, expressionism, folk drama; representative plays from Ibsen to O'Neill.
Offered every 3 years. 3 credits.

EN 332 Contemporary Drama

Prerequisite: EN 102

The dramatic works and aesthetics of Beckett, Pinter, and other selected dramatists of the contemporary theatre.
Offered every 3 years. 3 credits.

EN 334 Modern Poetry

Prerequisite: EN 102

Close analysis of the development of British and American poetry from the late nineteenth century to World War II.
Offered every 3 years. 3 credits.

EN 336 Contemporary Poetry

Prerequisite: EN 102

Concentrates on poets whose major work was written after World War II; special attention to authors presently writing and publishing.
Offered every 3 years. 3 credits.

EN 338 Contemporary Novel

Prerequisite: EN 102

American and English novels after World War II, with emphasis on living novelists.
Offered every 3 years. 3 credits.

EN 340 Twentieth-Century Literature

Prerequisite: EN 102

A survey of the major trends in twentieth-century poetry, drama, and fiction.
Offered every 3 years. 3 credits.

EN 342 The American Novel I

Prerequisite: EN 102

The American novel from its origin to 1890; Brown, Cooper, Melville, Hawthorne, and others.
Offered every 2 years. 3 credits.

EN 344 The American Novel II

Prerequisite: EN 102

The American novelists from 1890 to World War II: Crane, Wolfe, Dreiser, Anderson, Hemingway, Steinbeck, and others.
Offered every 2 years. 3 credits.

EN 345 Women in American Literature

Prerequisite: EN 102

The American woman as she is portrayed in fiction, non-fiction, and poetry.
Offered every 3 years. 3 credits.

EN 346 History of Literary Criticism

Prerequisite: EN 102

An historical introduction to speculation concerning the nature and function of literature: selections from Plato to Frye.
Offered every 3 years. 3 credits.

EN 350 Chaucer

Prerequisite: EN 102

A study of the development of Chaucer's versatile art and writings as expressive of the later Middle Ages.
Offered every 3 years. 3 credits.

EN 351 News Reporting and Writing II

Prerequisite: EN 272

Focuses on using documentary evidence in reporting. Students select a reporting specialty area such as sports, business or higher education.
Offered every 2 years. 3 credits.

EN 352 Practicum in Journalism

Prerequisite: EN 270 & EN 272

Workshop in which students report, write, and edit the online college news magazine. Participate in all aspects of publication.
Offered every semester. 3 credits.

EN 353 Narrative Journalism

Prerequisite: EN 272

Students analyze and create in-depth journalistic features and nonfiction stories that blend reporting with techniques of fictional storytelling.
Offered every 2 years. 3 credits.

EN 354 Opinion Writing

Prerequisite: EN 272

Students analyze and practice writing op-eds and other opinion pieces. Learn to write commentary that is publication ready.
Offered every 2 years. 3 credits.

EN 360 Shakespeare I

Prerequisite: EN 102

Major plays. Required of all English majors.
Offered every year. 3 credits.

EN 362 Shakespeare II

Prerequisite: EN 102

A continuation of EN 360; includes the sonnets and less familiar plays.
Offered every 2 years. 3 credits.

EN 380 Milton

Prerequisite: EN 102

A study of Milton's work from early poems to *Paradise Lost, Paradise Regained, and Samson Agonistes*; includes some prose pamphlets.
Offered every 3 years. 3 credits.

EN 390 The Irish Literary Revival

Prerequisite: EN 102

The Irish literary renaissance; the origins of the movement; includes Joyce, Yeats, Synge, O'Casey, Lady Gregory, and others.
Offered every 3 years. 3 credits.

EN 400 Seminar

Prerequisite: EN 102

Student presentations on individual figures and particular problems in literature.
Offered every year. 3 credits.

EN 410 Writing Practicum

Prerequisite: EN 102

Training and practice in one-to-one assistance for students' writing for any course, stage, or specific need.
Offered every year. 3-6 credits.

EN 411 Theory and Teaching of Writing

Study of current writing theory and classroom applications at the middle school, secondary and college levels.
Offered every 2 years. 3 credits.

EN 415 Technology and the Teaching of Writing

Prerequisite: EN 102 and Permission of Instructor

An introduction to the use of computer and internet technologies in the teaching of writing.
Offered every 3 years. 3 credits.

EN 416 Media Law and Ethics

Prerequisite: EN 272

An overview of the U. S. legal and justice systems and an examination of ethical issues in mass media.
Offered every 2 years. 3 credits.

EN 425 Independent Study in English

Prerequisite: EN 102, Consent of instructor

An opportunity for further study in a special field of interest under faculty supervision.
Offered every year. 1-6 credits.

EN 450 Special Topics in English

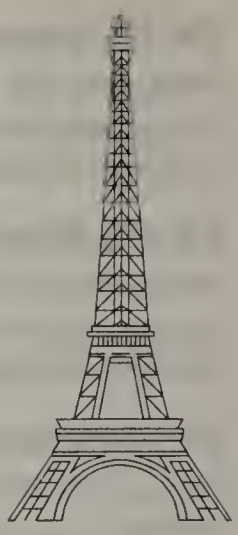
Prerequisite: EN 102

Specific content will vary in response to particular student and faculty interests.
Offered every year. 3 credits.

EN 475 Internship in English

Prerequisite: EN 102, Consent of instructor

Provides majors the opportunity to gain practical experience in areas where they may apply acquired critical and writing skills.
Offered every year. 3-6 credits.



French
Department of World Languages

Faculty

Judith Jeon-Chapman, Professor (1993)
B.A., College of St. Benedict; M.A., Ph.D., University of Washington

Courses in French are designed for students whose interests and career plans have an international or multi-ethnic focus. Students who minor in French will develop listening, speaking, reading, and writing fluency and will study the culture, history and literature of the people who use the language.

Alpha Mu Gamma, a national honor society in foreign languages, recognizes excellence in the study of foreign languages. Any Worcester State student who receives two "A's" in French at any level at Worcester State and a 3.0 cumulative G.P.A. is eligible to join. Application for membership is in early February. Contact Professor Judith Jeon-Chapman.

Requirements for a Minor in French: 18 credits in French including:
FR 100-299, beginning and intermediate courses (12 credits maximum)
FR 300-499, advanced courses (6 credits minimum)
(Students with advanced knowledge of French should begin at 300-level)

Placement for French Courses: Students are encouraged to discuss placement with French Faculty or the World Languages Department Chair. The following are intended to be general placement guidelines to help students with previous experience with French:

0-2 years of French in high school:	FR 101 Beginning French I
1-2 years of French in high school:	FR 102 Beginning French II
3 years of French in high school:	FR 210 Intermediate French I
4 years of French in high school:	FR 211 Intermediate French II
5 or more years of French in high school:	300-level & 400-level courses
Native Speakers of French:	300-level & 400-level courses

Students may also take a placement exam in French at the Academic Success Center. It is recommended that the results of the test be discussed with the French Faculty or the World Languages Department Chair, especially if the test places the student below the level recommended above.

French Courses

For information on the Liberal Arts and Sciences Curriculum (LASC), see page 36

FR 101 Beginning French I

LASC—Thought, Language and Culture

Fundamentals of pronunciation, patterns of speech, basic structures. Develops listening, speaking, reading and writing skills.
Offered every year. 3 credits.

FR 102 Beginning French II

LASC—Thought, Language and Culture

Prerequisite FR 101 or equivalent.
Offered every year. 3 credits.

FR 191 Special Topics in French

An introductory level course in French on current or specialized topics.
Offered every year. 3 credits.

FR 193 Special Topics in French for First-year Students

All "193" classes are approved for LASC but may vary by section. See current course listing for specific LASC area approval.

An introductory level course covering topics of special interest to first-year students. Offered only as a First-year Seminar.
Offered every year. 3 credits.

FR 210 Intermediate French I

LASC—Thought, Language and Culture

Prerequisite: FR 102 or equivalent

Review of fundamentals and presentation of more complex grammatical features; development of conversational skills; selected readings, written and oral composition.
Offered every year. 3 credits.

FR 211 Intermediate French II

LASC—Thought, Language and Culture

Prerequisite: FR 210 or equivalent

Continuation of FR 210.
Offered every year. 3 credits.

FR 321 Advanced French Composition I

LASC—Thought, Language and Culture; Writing Across the Curriculum

Prerequisite: Two FR 200 level courses or equivalent

Practice in diverse composition styles as well as review of grammar, and introduction to reading French texts. Conducted in French.
Offered every 3 years. 3 credits.

FR 322 Advanced French Grammar

Prerequisite: Two FR 200 level courses or equivalent

Intensive review of grammar, practice in composition and introduction to reading French texts. Conducted in French.
Offered every 3 years. 3 credits.

FR 323 Advanced French Conversation

LASC—Thought, Language and Culture

Prerequisite: Two FR 200 level courses or equivalent

Development of fluency and accuracy, free discussions, prepared oral presentations, practical exercises in oral expression. Conducted in French.
Offered every 3 years. 3 credits.

FR 331 General French Civilization

LASC—Thought, Language and Culture

Prerequisite: Two FR 200 level courses or equivalent

Significant aspects of French history, geography, and cultural achievements to World War I. Conducted in French.
Offered every 3 years. 3 credits.

FR 341 Introduction to French Literature

LASC—Thought, Language and Culture

Prerequisite: Two FR 200 level courses or equivalent

Major periods and genres of French literature. Conducted in French.
Offered every 3 years. 3 credits.

FR 342 Survey of French Literature I

LASC—Thought, Language and Culture

Prerequisite: Two FR 200 level courses or equivalent

Selections from the epic, drama, lyric poetry, and the major prose writers to major authors of the classical period. Conducted in French.
Offered every 2 years. 3 credits.

FR 344 Survey of French Literature II

LASC—Thought, Language and Culture

Prerequisite: Two FR 200 level courses or equivalent

Major authors of the eighteenth and nineteenth centuries. Conducted in French.
Offered every 2 years. 3 credits.

FR 346 Twentieth Century French Literature

LASC—Global Perspectives; Thought, Language and Culture

Prerequisite: Two FR 200 level courses or equivalent

Major novelists, dramatists, and poets from the turn of the century to the present. Conducted in French.
Offered every 3 years. 3 credits.

FR 401 Seminar in French Studies

Prerequisite: For advanced students

Special topics in French language, literature or civilization.
Offered every 3 years. 3 credits.

FR 402 Independent Study in French

Prerequisite: Consent of instructor

Study of a special topic. Both content and eligibility subject to departmental guidelines and approval.
Offered every year. 1-6 credits.

FR 403 Teaching Assistantship in French

Prerequisite: FR 321 or instructor's approval. Suggested for advanced students of French.

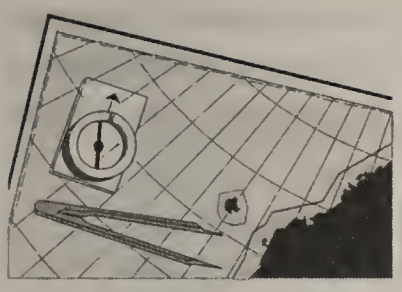
Teaching Assistants in French will regularly attend the beginning or intermediate-level classes to which they are assigned to assist the professor.
Offered every year. 3 credits.

FR 475 Internship in French

Prerequisite: Consent of instructor and department.

Provides majors practical experience in areas where speaking, reading, and writing skills may be applied.
Offered every year. 3 credits.

Note: *Courses in other foreign languages such as German, Latin, Russian, Chinese and Hebrew are offered when demand warrants and staffing permits.*



Geography and Earth Sciences
Department of Physical and Earth Sciences

Faculty

Patricia A. Benjamin, Associate Professor (2001), Department Chair
B.A., University of Oregon; M.L.S., University of Maryland; M.A., Ph.D., Clark University

Allison Dunn, Assistant Professor (2007)
B.A., Oberlin College; M.A., Ph.D., Harvard University

Douglas S. Frink, Assistant Professor (2008)
B.A., University of Vermont; M.A., University of Connecticut;
Ph.D., Arizona State University

William J. Hansen, Associate Professor (2005)
B.A., State University of New York at Albany; M.A., Hunter College;
Ph.D., City University of New York Graduate Center

Stephen Healy, Assistant Professor (2007)
B.A., Hampshire College; M.S., Ph.D., University of Massachusetts

James V. Lyons, Associate Professor (1989)
B.A., George Washington University; M.S., State University of New York, New Paltz;
M.A., State University of New York, Binghamton; M.A., Ph.D., Clark University

Geography is a science that examines physical and social processes and their interrelationships through the integrative concept of space. Physical geography analyzes the systems and processes that shape the earth's surface including weather, climate, landforms and hydrology. Human geography analyzes social processes such as globalization, demographics, urbanization and the construction of cultural identities. Environmental geography examines the interactions between social and physical systems. Geographers explore these processes using such tools as maps, geographic information systems and remote sensing techniques.

Membership in Gamma Theta Upsilon, the international geography honor society, is available to distinguished students. Prospective members must have completed a minimum of 3 geography or earth science courses, have a GPA of at least 3.3 overall in those courses, and shall have completed at least 3 semesters of college course work. A prospective member is not required to be a geography major or minor.

Requirements for a Major: Minimum requirement for the major is completion of a six-course (21 credit) core curriculum and one of four concentrations. Students will declare a concentration in either General Geography, Environmental Studies, Geographic Information Systems or Physical Geography.

Core Courses:

GS 101	Physical Geography	3
GE 102	Human Geography	3
GS 140	Physical Geology	4
GS 216	GIS	4
GE 212	Research Methods	3
GE/GS 400	Geography Seminar	4
	Core Total	**21 credits**

Requirements for the Concentration in General Geography
In addition to the six core courses, students will complete:

At least 1 advanced course (200-400 level) in:	
Physical Geography	3
Human Geography	3
And 2 advanced courses in any category:	
Electives	6
Concentration Total	**12 credits**
Major Total	**33 credits**

Requirements for the Concentration in Physical Geography
In addition to the six core courses, students will complete:

Prerequisite:

One couse in Statistics

Three of the following

GS 110	Meteorology	3
GS 225	Oceanography	3
GS 230	Biogeography	3
GS 310	Geomorphology	4

One of the following: 3

GE 258	Global Environmental Change
GE 359	Environmental Systems & Public Policy (UR 360 crosslist)

One of the following: 3

GS 318	Geographic Information Systems II
GS 218	Remote Sensing

Two of the Following: 6

*Choose from **ONE** of the following lists*

Solid Earth	**Water**	**Climate/Atmospheric Sci.**
GS 220 Earth History	GS 250 Hydrology	GS 235 Contemporary Climate Change
GS 305 Geol. Hazards	GS 335 Hydrogeology	GS 315 Climate Dynamics
GS 320 Soils	GS 470 Special Topics	GS 365 Climate Ch.E.Hist.
GS 325 Glacial Geology		GS 470 Special Topics
GS 245 Planet. Geology		
GS 470 Special Topics		

Concentration Total	**22 credits**
Major Total	**43 credits**

Requirements for the Concentration in Environmental Studies:
In addition to the six core courses, students will complete:

Required Courses:
GE 258 Global Environmental Change 3
Two courses in Physical Geography or
GIS (200-400 level) 6

Three of the following: 9
GE 220 New England Watersheds
GE 240 Energy Conservation
GS 305 Geological Hazards
GE 307 American Public Lands: Environmental Issues
GE 308 Environment and Development
GE 341 Fundamentals of Renewable Energy or GE 342 Sustainable Housing
GE 359 Environmental Systems & Public Policy (UR 360 crosslist)
GE 361 Public Policy & Environmental Issues (UR 361 crosslist)
GE/GS 470 Selected Topics (with approval)

One of the following: 4
GE/GS 460 Geography Internship
GE/GS 410 Independent Study in Geography
GE/GS 450 Readings and Directed Research

Concentration Total 22 credits
Major Total 43 credits

Requirements for the Concentration in Geographic Information Systems (GIS)
In addition to the six core courses, students will complete:

Prerequisites:
To be taken by the time the student has accumulated 21 credits in the major:
CS 135 Programming for Non-CS Majors
MA 150 Statistics I

Required Courses:
GS 318 GIS II 4
GS 355 GIS Analytical Techniques 4

Three Additional Courses 9
Three 200-400 level courses in either physical or human Geography. Students are encouraged to focus on one area. Regional courses are not appropriate.

One of the following: 3
GS/GE 410 Independent Study
GS/GE 450 Readings/Directed Research
GS/GE 460 Internship

Concentration Total 20 credits
Major Total 41 credits

Requirements for the Geography Minor
Students will complete 19 credits including:

GS 101 Physical Geography 3
GE 102 Human Geography 3
GS 216 Geographic Information Systems I 4
Three electives, one each in physical and human geography and one in any category.

Geography Courses

For information on the Liberal Arts and Sciences Curriculum (LASC), see page 36

GE 102 Human Geography

LASC—Global Perspectives; Human Behavior and Social Processes

Introduction to human geography, emphasizing globalization, human-environment relations and spatial patterns of population, development, economics, politics, urbanization and culture.
Offered every year. 3 credits.

GE 110 World Regional Geography I

Analysis of the physical, cultural and economic regions of Eurasia.
Offered every year. 3 credits.

GE 111 World Regional Geography II

Analysis of the physical, cultural and economic regions of Africa, Oceania and the Americas.
Offered every year. 3 credits.

GE 130 Introduction to Energy Studies

Foundation concepts in energy studies. Overview of environmental and societal implications of energy systems – past, present and future.
Offered every year. 3 credits.

GE 193 Special Topics in Geography or Earth Science for First-year Students

All "193" classes are approved for LASC but may vary by section. See current course listing for specific LASC area approval.

Introductory level course covering topics of special interest to first-year students. Offered only as a First-year Seminar.
Offered every year. 3 credits.

GE 195 Special Topics

Introductory course to be offered on a trial basis. Topic to be announced in advance
3 credits.

GE 210 Geography of North America

Analysis of the physical and human geography of North America.
Offered every 3 years. 3 credits.

GE 212 Geographic Research Methods

Prerequisites: GE 102, GS 101, GS 216

Overview of the research process; research design in human, physical and environmental geography; quantitative, qualitative and cartographic methods.
Offered every year. 3 credits.

GE 220 New England Watersheds: Past, Present and Future

History and industrialization of New England's rivers. Present water resources and environmental issues. Case studies of local watersheds and organizations.
Offered every 3 years. 3 credits.

GE 230 Geography of Europe

European landforms, people, culture, economics, and problems facing the individual countries.
Offered every 3 years. 3 credits.

GE 240 Energy Conservation

Concepts, technologies and policies for energy conservation. Inefficiencies of current systems; technical and social changes for energy efficiency.
Offered every year. 3 credits

GE 250 Urban Geography

Prerequisite: GE 102 or permission of instructor

World urbanization; location, and central place concepts; economy of cities; land use patterns; urban environmental problems.
Offered every year. 3 credits.

GE 255 Geography of Africa

Analysis of the physical and human geography of Africa.
Offered every year. 3 credits.

GE 258 Global Environmental Change

Introduction to the science, political economy and ethics of global environmental change.
Offered every year. 3 credits.

GE 260 Geography of Latin America

Physical, economic, social, and cultural analysis of the individual countries: historical background to present-day development.
Offered every 3 years. 3 credits.

GE 285 Economic Geography

Prerequisite: GE 102 or permission of instructor

Location and distribution of economic activity. Globalization, development, agriculture, transportation and communication networks. Spatial organization and function of business activity.
Offered every year. 3 credits.

GE 295 Geography of the Former Soviet Union

Analysis of the physical, cultural, socio-economic and political characteristics of the former Soviet Union.
Offered every 3 years. 3 credits.

GE 307 American Public Lands: Environmental Issues

Prerequisite: GE 258 or permission of instructor

Exploration of environmental management issues on U.S. public lands, such as national parks, national forests, BLM lands.
Offered every 3 years. 3 credits.

GE 308 Environment and Development

Prerequisite: GE 258 or permission of instructor

The global ecology of rich and poor. Environmental implications of poverty, economic development, mass consumption, globalization and demographic change.
Offered every 3 years. 3 credits.

GE 341 Fundamentals of Renewable Energy

Prerequisite: GE 130 (formerly NS 110) or GE 240 (formerly NS/GS 260) or permission of instructor

Analysis of renewable energy concepts, policy and politics. Technologies and methods for renewable energy capture, storage and distribution.
Offered every year. 3 credits

GE 342 Sustainable Housing

Prerequisite: GE 130 (formerly NS 110) or GE 240 (formerly NS/GS 260) or permission of instructor

Principles of green design with an emphasis on building construction. Material and energy flows, choice of materials, designing for sustainability.
Offered every year. 3 credits

GE 359/UR 360 Environmental Systems and Public Policy

Prerequisite: Environmental Studies concentration status

Examination of urban ecosystems, focusing on land uses designed to effectively utilize water, open space and other natural resources.
Offered every 2 years. 3 credits.

GE 360 Geography of the Middle East

Prerequisite: GE 102

The Middle East: geography, society, economics and political structure.
Offered every 3 years. 3 credits.

GE/UR 361 Public Policy and Environmental Issues

Prerequisite: Environmental Studies concentration status

Investigation of the factors that determine the formation of public policy on the environment with consideration of the roles played by state and federal regulatory agencies.
Offered every 2 years. 3 credits.

GE 400 Geography Seminar

Prerequisites: GE 102, GS 101, GS 216, GE 212 and senior standing (or permission of department chair)

Capstone course for geography majors. Students conduct independent research projects and present their findings.
Offered every year. 4 credits.

GE 410 Independent Study in Geography

Opportunity for advanced students to pursue a topic of special interest involving extensive reading, experimentation, and research.
1-6 credits.

GE 450 Readings and Directed Research

Prerequisites: All department requirements for major fulfilled.

Directed study on selected topics; open to senior majors.
3 credits.

GE 460 Geography Internship

Prerequisites: All department requirements for major fulfilled.

Students assigned to various government and private agencies under joint supervision of agency and faculty.
1-6 credits.

GE 470 Selected Topics in Geography

Topic or subject to be announced in advance; topic to be relevant to student needs and interests and subject to availability of professor.
3 credits.

Earth Science Courses

For information on the Liberal Arts and Sciences Curriculum (LASC), see page 36

GS 101 Physical Geography

LASC—Natural Systems and Processes

Introduction to earth systems and processes. Characteristics and distribution of landforms, climates, water, soils, plants and animals.

Offered every year. 3 credits.

GS 105 New England Landscape

Analysis of the geological background of New England's distinctive scenery. Includes study of bedrock base, glacial features, coastline, and mountains.
Offered every 3 years. 3 credits.

GS 110 Meteorology

Weather elements, frontal storms, air mass characteristics, winds, temperature, precipitation, and pressure patterns throughout the world; weather instruments, forecasting.
Offered every year. 3 credits.

GS 140 Physical Geology

Introduction to geological science: rocks and minerals, internal and external geologic processes, topographic map and air photo analysis, local field study. Three lecture hours and two laboratory hours per week.
Offered every year. 4 credits.

GS 165 Geology of the National Parks

Examination of the natural features located in each park and of the earth processes which formed them.
Offered every 3 years. 3 credits.

GS 193 Special Topics in Geography or Earth Science for First-year Students

All "193" classes are approved for LASC but may vary by section. See current course listing for specific LASC area approval.

Introductory level course covering topics of special interest to first-year students. Offered only as a First-year Seminar.
Offered every year. 3 credits.

GS 195 Special Topics

Introductory course to be offered on a trial basis. Topic to be announced in advance
3 credits.

GS 214 Maps & Map Interpretation

Introduction to map reading and interpretation and the history and basic principles of cartography.
Offered every year. 3 credits.

GS 216 Geographic Information Systems I

Introduction to the digital production of maps using *ArcGIS* software.
Offered every year. 4 credits.

GS 218 Introduction to Remote Sensing

Introduction to the use and analysis of remotely sensed images such as aerial photographs and satellite imagery.
Offered every year. 3 credits.

GS 220 Earth History

Prerequisite: GS 140

Historical evolution of the earth, its surface features, and life forms through geologic time.
Offered every 3 years. 3 credits.

GS 225 Oceanography

The principles of physical, chemical, biological, and geological oceanography.
Offered every year. 3 credits.

GS 230 Biogeography

Prerequisite: GS 101, BI 101 or BI 140 recommended but not required

The distribution patterns of plants and animals, processes affecting this distribution, and how these patterns change in space and time.
Offered every other year. 3 credits.

GS 235 Contemporary Climate Change

Prerequisite: GS 101 recommended but not required

The global climate system, factors influencing climate, recent climate change and the role of human activity.
Offered every other year. 3 credits.

GS 245 Planetary Geology

Prerequisites: GS 140 or PY 101 (formerly NS 105) or permission of instructor
Solar system formation and evolution with emphasis on planetary interiors and surface features.
Offered every 3 years. 3 credits.

GS 250 Hydrology

Hydrologic processes, their estimation and measurement. Includes precipitation, evaporation, runoff, groundwater and water resources management.
Offered every year. 3 credits.

GS 290 Environmental Planning and Landscape Analysis

Study of physical environments in the context of land use suitability. Emphasis on rivers, coasts, wetlands, slope stability and soils.
Offered every 3 years. 3 credits.

GS 305 Geological Hazards

Prerequisite: GS 101 or GS 140

Earthquakes and volcanic eruptions; impact of and societal response to such events.
Offered every 3 years. 3 credits.

GS 310 Geomorphology

Prerequisite: GS 101 or GS 140

The study of landforms and the processes that form them. Labs focus on interpretation of maps and aerial photographs.
Offered every year. 4 credits.

GS 315 Climate Dynamics

Prerequisite: GS 110 or GS 235 or permission of instructor

Processes that determine climate and contribute to its variability.
Offered every 3 years. 3 credits.

GS 318 Geographic Information Systems II

Prerequisite: GS 216

Advanced production of digital maps using a GIS vector oriented software.
Offered every 2 years. 4 credits

GS 320 Introduction to Soil Science

Prerequisite: GS 101 or GS 140 or permission of instructor

The study of the formation, processes, classification and composition of soils with emphasis on environmental applications, including wetland delineation.
Offered every year. 3 credits.

GS 325 Glacial Geology

Prerequisite: GS 140

Glaciers and their dynamics; investigation of the Quaternary Ice Age and its profound effects on world scenery.
Offered every 3 years. 3 credits.

GS 335 Hydrogeology

Prerequisites: GS 140 or GS 250

Underground water and its movement. Aquifer identification and test; wells, contamination and remediation, ground water as a geologic agent.
Offered every 3 years. 3 credits.

GS 355 Geographic Information Systems: Analytical Techniques

Prerequisite: GS 216

Advanced production and analysis of digital maps and digital remotely sensed images.
Offered every 3 years. 4 credits.

GS 365 Climate Change over Earth History

Prerequisite: GS 140 or GS 235 or GS 315 or permission of instructor

A record of change climate on Earth; methods used to reconstruct past climates; relevance of past changes to the current climate.
Offered every 3 years. 3 credits.

GS 400 Geography Seminar

Prerequisites: GE 102, GS 101, GS 216, GE 212 and senior standing (or permission of department chair)

Capstone course for geography majors. Students conduct independent research projects and present their findings.
Offered every year. 4 credits.

GS 410 Independent Study in Geography

Opportunity for advanced students to pursue a topic of special interest involving extensive reading, experimentation, and research.
1-6 credits.

GS 450 Readings and Directed Research

Prerequisites: All department requirements for major fulfilled.

Directed study on selected topics; open to senior majors.
3 credits.

GS 460 Geography Internship

Prerequisites: All department requirements for major fulfilled.

Students assigned to various government and private agencies under joint supervision of agency and faculty.
1-6 credits.

GS 470 Selected Topics in Geography

Topic or subject to be announced in advance; topic to be relevant to student needs and interests and subject to availability of professor.
3 credits.

Global Studies

Global Studies Concentration

Faculty

Joseph P. Baratta, Associate Professor of History and Political Science
B.A., St. John's College; M.A., M.A.T., Ph.D., Boston University

Patricia A. Benjamin, Associate Professor of Geography and Earth Sciences
B.A., University of Oregon; M.L.S., University of Maryland; M.A., Ph.D., Clark University

Peter M. Bradley, Professor of Biology
B.Sc., University of Aberdeen; Ph.D., Worcester Polytechnic Institute

Philip J. Burns, Professor of English
B.A., Miami University; M.A., Indiana University, Bloomington;
Ph.D., University of Rhode Island

Guillermina Elissondo, Professor of Spanish and World Languages
B.A., Universidad Católica de Mar del Plata, Argentina; M.A., Michigan State University;
Ph.D., University of North Carolina – Greensboro

Anne M. Falke, Professor of Chemistry
B.A., University of Rhode Island; Ph.D., University of New Hampshire

Sue Fan Foo, Associate Professor of Education
M.Ed., Ed.D., University of Cincinnati

Carlos Fontes, Professor of Communication, Director of Global Studies
B.A., Escola Superior de Meios de Communicacao Social, Lisbon;
M.A., Ph.D., University of Massachusetts, Amherst

Ellen F. Fynan, Professor of Biology
B.S., University of Maine; Ph.D., Thomas Jefferson University

Suzanne Gainer, Associate Professor of Communication
B.A., St. Vincent College; M.F.A., Rhode Island School of Design

Aldo V. Garcia Guevara, Assistant Professor of History
B.A., University of North Carolina-Asheville; M.A., Ph.D., University of Texas-Austin

Ruth P. Haber, Associate Professor of English
B.A., M.A., Ph.D., University of California, Santa Barbara

Stephen Healy, Assistant Professor of Geography and Earth Sciences
B.A., Hampshire College; M.S., Ph.D., University of Massachusetts

Judith Jeon-Chapman, Professor of French, Spanish and World Languages
B.A., College of St. Benedict; M.A., Ph.D. University of Washington, Seattle

Matthew Johnsen, Associate Professor and Chair of Sociology
A.B., Dartmouth College, Hanover, NH; M.S., New Hampshire College, Manchester; Ph.D., North Carolina State University, Raleigh

Margaret E. Kerr, Professor of Chemistry
B.S., University of Maine; Ph.D., Wesleyan University

Augustus N. Luparelli, Associate Professor of Business Administration
B.A., Fitchburg State College; M.A., Worcester State College;
Ph.D., University of Connecticut

Fortunata S. Makene, Assistant Professor of Sociology
B.A., University of Dar Es Salaam, Tanzania; M.S., St. Cloud State University, Minnesota; Ph.D., University of Minnesota, Twin Cities

Patricia A. Marshall, Associate Professor of Spanish and World Languages
B.A., Colby College; M.A., Ph.D., Brown University

JoAnne Maynard, Associate Professor of Health Sciences
B.S., Fitchburg State College; M.A., Emerson College; M.P.A., Harvard University; M.P.H., University of Massachusetts; Ph.D., Brandeis University

Steven J. Oliver, Associate Professor of Biology
B.A., University of Montana; Ph.D., Boston University

Juan Orbe, Professor of Spanish and World Languages
B.A., Universidad Nacional de La Plata, Argentina;
M.A., Ph.D., Michigan State University

Bonnie Orcutt, Professor of Economics
B.S., Worcester State College; M.A., Ph.D., Clark University

Rodney Oudan, Associate Professor of Business Administration
Certificate in Marketing, Charted Institute of Marketing, England; Post-Certificate in Marketing, University of West Indies, Trinidad; Master of Management, Cambridge College, Massachusetts; D.B.A. in Marketing, Nova Southeastern University, Florida.

Margarita Perez, Professor of Education
B.A., Mount Holyoke; M.A., Ed.D., Teachers College, Columbia University

Ana Pérez-Manrique, Assistant Professor of Spanish and World Languages
B.A., Universidad de Málaga, Spain; M.A., University of South Carolina;
Ph.D., Florida State University

Josna E. Rege, Associate Professor of English
B.A., Harvard University; M.A., Ph.D., University of Massachusetts, Amherst

MaryLynn D. Saul, Professor of English
B.S., M.A., Ph.D., Ohio State University

Courtney D. Schlosser, Professor of Philosophy
A.B., George Washington University; Ed.M., Ed.D., Boston University

Daniel C. Shartin, Professor of Philosophy
B.A., M.A., Ph.D., University of California at Los Angeles

Kristin Waters, Professor of Philosophy
A.B., Bard College; M.A., Ph.D., University of Connecticut

Karen Woods Weierman, Associate Professor of English
B.A., Georgetown University; Ph.D., University of Minnesota

Sharon R. Yang, Professor of English
B.A., University of Massachusetts, Lowell; M.A., Clark University;
Ph.D., University of Connecticut

Barbara Zang, Professor of Communication
B.S., University of Missouri; M.A., University of Toledo; M.A., University of Missouri;
Ph.D., Indiana University

Global Studies is an interdisciplinary academic area that draws from a wide range of disciplines in the Humanities, the Sciences and the Arts to examine global processes and events and their effects at a local level. For the last two decades the world has been undergoing a sustained reorganization along economic, social, political, cultural, technological and environmental lines that cut across national boundaries. We have also experienced an increased global connectivity, integration and interdependence, and witnessed the emergence of planet wide issues such as climate change, poverty, new technologies and entrenched wars. In response to these real world events, Global Studies has emerged as a dynamic interdisciplinary academic field to study the forces shaping these complex processes.

The mission of the Global Studies concentration is to prepare students to understand international affairs and provide them with a solid background for decision-making in an increasingly interdependent world community. Students are encouraged to connect their knowledge of a particular region of the world to larger transnational processes and to examine their identities in a global frame. The interdisciplinary concentration in Global Studies will give students added skills to function in a global market and the depth of understanding necessary to be responsible citizens of planet Earth.

Requirements for a Concentration in Global Studies: 15 credits

Students are required to take a total of five Global Studies courses starting with GL 150 Introduction to Global Studies (Required) plus four electives chosen from across various disciplines. One of the elective courses has to be at a 200 level and another at either a 300 or 400 level. No more than two courses can be counted from the same department. Students are strongly encouraged to elect a world language course other than English and/or a study abroad course that meets the Global Studies criteria.

Global Studies Courses

For information on the Liberal Arts and Sciences Curriculum (LASC), see page 36

Courses marked with an asterisk (*) are approved for the concentration only during those semesters when they are listed under Global Studies in the Course Schedule

GL 150 Introduction to Global Studies

This course analyzes the forces reorganizing the planet along economic, social, political, cultural, technological and environmental lines across national boundaries.
Offered every year, 3 credits.

GL/BI 112 Diseases and Mankind

Diseases of ancient and modern man; the impact on history, religion, science, art and philosophy.
Offered every year. 3 credits.

GL/BI 114 Plants and Human Affairs

LASC—Global Perspectives; Natural Systems and Processes

Man's dependence upon plants and their influence on civilization and its art, religions, literature, folklore, medicine, and human behavior.
Offered every 2 years. 3 credits.

*GL/BI 199 Selected Topics in Biological Sciences

Each topic is a lecture and/or laboratory course in a selected area of the biological sciences presented by a departmental instructor. Topics will be announced in advance.
Offered every year. 1-4 credits.

GL/BI 380 Biodiversity and Conservation Biology

Prerequisites: BI 105 and 106 or BI 140, BI 141

A theoretical and quantitative approach to species, genetic, ecosystem and community diversity in the context of modern conservation biology principles.
Offered every 3 years. 4 credits

*GL/BA 440 International Business

Prerequisites: BA 316, BA 318

Focuses upon the international dimensions of management, finance, and marketing as they impact corporate policy and strategy.
Offered every 2 years. 3 credits.

*GL/CH 191 Selected Topics

Paper of Plastic? A lecture or laboratory course designed to introduce a selected topic(s) of interest.
Offered every 3 years. 1-4 credits.

GL/CH 320 Environmental Chemistry

Prerequisites: CH 120, CH 121 and CH 111 or CH 201

Chemistry of the atmosphere, soil, and natural water systems, air and water pollution water treatment, hazardous wastes and pollution control.
Offered every 2 years. 3 credits.

GL/CM 270 Media and Globalization

This course examines the emergence of global media and its impact on the development of a global world.
Offered every 2 years. 3 credits.

*GL/CM 350 Intercultural Communication

Prerequisite: CM 100

Introductory communication theory and practice across cultural groups defined by race, ethnicity, gender, religion, age, nationality, politics and economics.
Offered every 2 years. 3 credits.

GL/CM 390 Alternative Communication

Prerequisite: CM 103

This course introduces students to the theory and practice of alternative communication and its relationship with culture and politics.
Offered every 3 years. 3 credits.

*GL/CM 410 Seminar: Topics in Communication

Prerequisites: Permission of Instructor

Amazon Expedition; Oil, and Indigenous Survival. This course engages students in advanced examination of emerging communication topics and of topics in a faculty's area of expertise.
Offered every 2 years. 3 credits.

*GL/EC 206 Urban Economics

Prerequisites: EC 110; EC 120

The theory and policy of the growth and development of metropolitan areas; some of the policy-related problems discussed are poverty, residential and commercial land use, and traffic congestion.
Offered every 2 years. 3 credits.

GL/EC 210 Current Economic Issues

Prerequisites: EC 110; EC 120

This course is designed to connect economic knowledge and theory acquired at the introductory level to current economic issues and policy. National and international topics of importance will be considered. For example, pollution, trends in productivity, profitability and distribution, debt and deficits, patterns of investment, trade, and globalization and the economic issues of race, gender and poverty may be covered.
Offered every year. 3 credits

GL/EC 301 Economic Development

Prerequisites: EC 110, EC 120

A survey of contemporary economic theories concerning less developed countries; social, cultural, and political forces shaping the development of such countries are also investigated.
Offered every 3 years. 3 credits

*GL/EC 307 International Finance

Prerequisites: EC 110, EC 120

Study of how international trade and investment is financed in a world of floating, fixed and managed exchange rate systems.
Offered every 2 years. 3 credits.

*GL/EC 308 International Trade

Prerequisites: EC 110, EC 120

Reasons why nations gain by spatial specialization and exchange with other countries. Analysis of the mechanism by which international equilibrium is restored. Study of trade and foreign exchange policies.
Offered every 2 years. 3 credits.

GL/EN 132 World Literature: Survey of Asian, African and Latin American Literature

LASC—Global Perspectives; Thought, Language and Culture; Diversity Across the Curriculum

Representative poems, stories, plays, both ancient and modern, from Asia, Africa, and Latin America.
Offered every year. 3 credits.

*GL/EN 167 Literature and Human Rights

LASC—Global Perspectives; Human Behavior and Social Processes; Diversity Across the Curriculum

An analysis of international creative writing dealing with the subject of human rights. Resource persons from different fields will be utilized.
Offered every 3 years. 3 credits.

*GL/EN 169 Ethnic Literature in the U.S.

LASC—Thought, Language and Culture; United States and Its Role in the World; Diversity Across the Curriculum

Study of ethnic Literature in the U.S., focusing on African-American, Asian-American, Latino, and Native American writers
Offered every year. 3 credits

*GL/EN 450 Special Topics in English

Prerequisite: EN 102

Specific content will vary in response to particular student and faculty interests.
Offered every year. 3 credits.

*GL/FR 401 Seminar in French Studies

Prerequisite: For advanced students

Francophone Literature. Special topics in French language, literature or civilization.
Offered every 3 years. 3 credits.

GL/GE 102 Human Geography

LASC—Global Perspectives

Introduction to human geography, emphasizing globalization, human-environment relations and spatial patterns of population, development, economics, politics, urbanization and culture.
Offered every year. 3 credits.

*GL/GE 110 World Regional Geography I

Analysis of the physical, cultural and economic regions of Eurasia.
Offered every year. 3 credits.

*GL/GE 111 World Regional Geography II

Analysis of the physical, cultural and economic regions of Africa, Oceania and the Americas.
Offered every year. 3 credits.

GL/GE 258 Global Environmental Change

Introduction to the science, political economy and ethics of global environmental change.
Offered every year. 3 credits

GL/GE 308 Environment and Development

Prerequisite: GE 258 or permission of instructor

The global ecology of rich and poor. Environmental implications of poverty, economic development, mass consumption, globalization and demographic change.
Offered every 3 years. 3 credits.

GL/HE 390 Environmental Health

Prerequisite: HE 100

Examination of the issues affecting the environment and their impact on individual and global health.
Offered every year. 3 credits.

*GL/HI 105 World Civilization III

Surveys economic, social, political, and intellectual development of world civilizations and their inter-relationship from 1914 to the present.
Offered every year. 3 credits

GL/HI 191 Special Topics in History

History of Child Labor. This introductory level course will cover topics in history which are of special interest to first-year students.
Offered every year. 3 credits

GL/HI/PO 202 International Relations II

LASC—Global Perspectives; United States and Its Role in the World

Prerequisite: PO 101 or HI 103 or HI 104

The promise and problems of globalization (spread of free market capitalism and political democracy).
Offered every year. 3 credits.

GL/HI 205 Native America

This survey covers the broad sweep of Native American history and focuses on the encounter between American and European civilizations and how Native culture has adapted through the centuries.
Offered every 2 years. 3 credits.

GL/HI 208 American Immigrant History

Survey of immigration. Topics such as old-world background, impact on US, nativism, cultural pluralism, religion, mobility, family and politics.
Offered every year. 3 credits.

GL/HI 214 Modern Latin America

The people of Latin America from independence to the present, focusing on race, sex and power.
Offered every year. 3 credits.

*GL/HI 216 Economic History of the US

An introduction to United States economic development; particular attention will be paid to industrialization and the labor force.
Offered every year. 3 credits

GL/HI 221 African-American History I

The people of African descent from the emergence of the slave trade to the Civil War, focusing on race, gender, and power.
Offered every year. 3 credits.

GL/HI 249 US Labor History I

The relationship between workers, their employers, and the surrounding community between 1815 and World War II.
Offered every 2 years. 3 credits.

GL/HI 262 Middle East History II

The Ottoman Empire: expansion, institutions, impact on Europe, decline of the Empire.
Offered every 2 years. 3 credits.

GL/HI 263 US - Middle East Relations

Prerequisite: HI 103 or HI 104 or HI 111 or HI 112

Course will discuss the influence the Middle East has had on US policy since US independence to the present.
Offered every 2 years. 3 credits.

*GL/HI 271 Women and Work in Historical Perspective

Prerequisite: HI 103 or HI 104 or HI 111 or HI 112

This course undertakes to examine women's work conditions and the opposition to its continuation in Europe and America, 16th-19th centuries.
Offered every 2 years. 3 credits

*GL/HI 274 Sex, Marriage and the Family in Historical Perspective

Prerequisite: HI 103 or HI 104 or HI 111 or HI 112

This course will undertake a study of courtship, marriage and family life-cycle patterns in England and America during the 19th century.
Offered every 2 years. 3 credits.

GL/HI/PO 330 Politics of the Middle East I

Prerequisite: HI 104 or HI 105 or HI 111 or HI 112 or PO 101 or HI 261 or HI 314

Discusses governments and politics of eastern Arab countries, Turkey, Iran, and Israel. International rivalries in the area are also discussed.
Offered every year. 3 credits

GL/HI 333 Women in Latin America

Prerequisite: HI 233 or equivalent

Examines the roles of women in diverse societies including Mexico, Brazil and Caribbean nations. Emphasis on the modern period.
Offered every 3 years. 3 credits.

GL/HI 350 Native American Women

Prerequisite: HI 205 or equivalent

Examines Indian women from the time of European contact to the modern era. Emphasizes culture, community and arenas of power.
Offered every 3 years. 3 credits.

GL/MU 140 World Music

LASC—Creative Arts

An introduction to music of various cultures and continents including music of Africa, Asia, Latin America, The Middle East and India.
Offered every year. 3 credits.

GL/PH 150 Women in Western Ideas

Investigates the concept of woman from ancient Greece to the present.
Offered every 2 year. 3 credits.

GL/PH 170 Ancient Chinese Philosophies in a Cultural Perspective

LASC—Global Perspectives; Thought, Language and Culture

Ancient Chinese philosophies of Taoism, Confucianism, Buddhism, and neo-Confucianism in the context of contemporary developments in China; Communism, Capitalism, and Western influences considered.
Offered every year. 3 credits.

GL/PH 172 Asian Philosophies and Contemporary Perspectives

Studies the philosophies of India, China, Japan, and the vitality of ancient traditions in a time of cultural change: Buddhism, Taoism, Confucianism, Jainism, Hinduism and Islam.
Offered every year. 3 credits.

GL/PH 230 Religious Philosophies, East and West

An examination of the major religious systems, both oriental and occidental.
Offered every 2 years. 3 credits.

PH 250 Global Feminism

LASC—Global Perspectives; Thought, Language and Culture

Investigates the theoretical underpinnings of women's movements for equal rights around the globe.
Offered every 2 years. 3 credits.

GL/SP 332 The Hispanic World Today

LASC—Global Perspectives

Prerequisite: Two SP 200 level courses

Social, economic and political institutions; value systems and customs. Conducted in Spanish.
Offered every 2 years. 3 credits.

GL/SP 333 The Hispanic Presence in the United States

Prerequisite: Two SP 200 level courses

Sociocultural study of Hispanics in the United States, with a focus on major contemporary issues. Conducted in Spanish.
Offered every 2 years. 3 credits.

GL/SP 342 Introduction to Latin American Literature I

Prerequisite: SP 321, SP 323, SP 324 or instructor's approval.

Study of the literature produced in Latin America from the pre-Columbian era until the first wars of independence.
Offered every 3 years. 3 credits

GL/SP 349 Spanish-American Literature

Prerequisite: SP 321, SP 323, SP 324 or instructor's approval.

Representative works from South and Central American authors from the colonial period to the present.
Offered every 3 years. 3 credits.

*GL/SP 401 Advanced Study: Special Topics

Prerequisite: For advanced students

Gender, Identity and Representation in Latin America. Special topics in language, literature, civilization or field work of mutual interest to student and instructor.
Offered every 3 years. 3 credits.

GL/UR 360 Environmental Systems and Public Policy

Prerequisite: UR 101 or permission of instructor

Examination of urban ecosystems, focusing on land uses designed to effectively utilize water, open space and other natural resources.
Offered every 2 years. 3 credits.

Health Sciences

Department of Health Sciences

Faculty

Lynn Bloomberg, Associate Professor (1996)
B.A., University of Hawaii; M.Ed., University of Texas; M.P.H., Dr.P.H., University of California at Berkeley

Nancy Brewer, Associate Professor (2000) CHES
B.S., University of Pittsburgh; M.Ed., Ph.D., The Pennsylvania State University

JoAnne Maynard, Associate Professor (2003)
B.S., Fitchburg State College; M.A., Emerson College; M.P.A., Harvard University; M.P.H., University of Massachusetts; Ph.D., Brandeis University

Helena B. Semerjian, Associate Professor (1966), Department Chair
B.S., M.Ed., Fitchburg State College; M.Ed., Boston University

The Department of Health Sciences offers coursework leading to a Bachelor of Science degree in Community Health or Health Education, with or without teacher certification, and minors in Health Education, Public Health, and Health Fitness, and an Interdisciplinary Concentration in Public Health and Social Justice. Department courses provide basic knowledge and basic practice skills to prepare students interested in pursuing careers in a variety of health service settings, teaching, and as preparation for graduate programs in health and health-related professions. General distribution requirements provide a broad cultural background in the humanities, in the behavioral and social sciences, and in the natural sciences. Membership in a national health honor society, Eta Sigma Gamma, is made available to students who maintain a 3.0 average or better.

For all Health courses in the majors, minors and the concentration a minimum grade of 2.0 is required and courses may not be taken pass/fail. Courses may be repeated.

Prerequisite courses must average a minimum of 2.0.

Next Step is a Community Health program for non-traditional students with health-related work experience. The program offers evening and weekend courses and an opportunity to gain elective credit in the major for writing a portfolio of prior learning.

Graduates are eligible to take the Certified Health Education Specialist exam (CHES) conferred by the National Commission for Health Education Credentialling (CHEC).

Community Health Major

The goal of the community health program is to prepare health practitioners in the public health disciplines of wellness, health promotion and holistic disease prevention; as well as in community health services through cooperative, multi-disciplinary experiences. Coursework focuses on developing competency in assessing individual/community health needs, and planning, implementing, and evaluating community health programs through academic work as well as field work.

Major Requirements: 45-48 credits

HE	100	Personal Health
HC	350	Group Process
HE	350	Community Health
HE	390	Environmental Health Education
HC	400	Epidemiology
HC	415	Community Health Planning and Promotion
HC	425	Research Seminar
HC	450	Practicum in Community Health (3-6 credits)

Major Electives:

21 credits from Community Health or Health Education courses

Required Ancillary Courses: 31 credits

The following courses must be completed with an average of C or better; they may be taken concurrently with major course requirements:

BI	161	Anatomy and Physiology I
BI	162	Anatomy and Physiology II
PS	101	General Psychology
PS elective		
SO	100	Introduction to Sociology
SO	275	Social and Behavioral Statistics or HC 235 Statistical Applications to Community Health

Health Education Major

The goal of the program is to prepare graduates to be critical and creative thinkers as well as lifelong learners in the dynamic field of health education. Coursework and fieldwork focus on developing the knowledge, understandings, competencies, and experiences required of professionals teaching health education in a variety of community settings. Worcester State also offers Initial Licensure for health education programs in middle and secondary education (grades 5-12).

Major Requirements: 39 credits

HE	100	Personal Health
HE	120	Health and Nutrition
HE	200	Consumer Health
HE	220	Mental Health Education
HE	230	Human Sexuality and Sex Education
HE	275	Fitness for Life
HE	385	Drugs and Society
HE	390	Environmental Health
HC	415	Community Health Planning & Promotion
HE	440	Practicum in Health

First Aid/CPR: Red Cross or American Heart Association non-credit certification, or 1-3 credit course

Major Electives (6-9 credits) without Education minor
(n.b. Evening and summer courses may be necessary)

With Education minor (in lieu of Health electives and Health Practicum)

PS	215	Psychology of Adolescence
ED	149	Introduction to Teaching Profession
ED	250	Educational Psychology
ED	251	Foundations of Education
ED	270	Multicultural Education
ED	351/2	Principles and Evaluation
ED	353/4	Effective Teaching
ED	370/1	Contemporary Issues
ED	424	Seminar
ED	480/485	Practicum in Teaching (replaces HE 440: Practicum in Health)

Required Ancillary Courses for the Health Education major: 31 credits
The following courses combined must average C or better; they may be taken concurrently with major course requirements:

BI	161	Human Anatomy and Physiology I
BI	162	Human Anatomy and Physiology II
PS	101	General Psychology and PS Elective or PS 215 for Education Minor
SO	100	Introduction to Sociology
SO	275	Social and Behavioral Statistics or HC 235 Statistical Applications to Community Health

Health Minors

Health Education Minor: 18 credits
Requirements:

HC	240	Program Planning and Evaluation for Non-Majors	3 credits
Electives:		Health Education and Community Health courses	15 credits

Public Health Minor: 21 credits
The minor is designed to develop a more in-depth understanding of the core areas and competencies of the public health discipline by introducing students to various determinants affecting health from global, national, community, and local perspectives.
Requirements:

HC	201	Introduction to Public Health	3 credits
HC	202	Introduction to Global Health	3 credits
HC	203	Introduction to Epidemiology	3 credits
HC	240	Program Planning and Evaluation for Non-majors	3 credits
Electives:		from Interdisciplinary or Health courses	9 credits

Health Fitness Minor: 18 credits
The minor encompasses both the knowledge and skills required in the growing field of Health Fitness. Applications focus on improving health and fitness at both the individual and population levels.
Requirements:

HE	120	Health and Nutrition	3 credits
PE	210	Foundations of Strength and Conditioning	3 credits
PE	220	Survey of Athletic Training	3 credits
Electives 9 credits from:			
PE/HE	150	Health and Physical Education for the Teacher	3 credits
PE	190	Sport and Society	3 credits

PE 240	Athletic Programs	3 credits
PE/HE 260	First Aid: Advanced Theory & Skills	3 credits
PE/HE 275	Fitness for Life	3 credits
PE/HE 280	Stress Management	3 credits
HE 385	Drugs and Society	3 credits
PE 420	Practicum in Health Fitness	3 credits

Health Concentration

Interdisciplinary Concentration in Public Health and Social Justice: 15 credits
The Concentration is designed to develop an educated citizenry who will examine the determinants of health from global, national, community and local perspectives.
Requirements:

HC 201	Introduction to Public Health	3 credits
HC 202	Introduction to Global Health	3 credits
HC 203	Introduction to Epidemiology	3 credits

Electives: 6 credits from approved interdisciplinary list.

Health Education Courses

For information on the Liberal Arts and Sciences Curriculum (LASC), see page 36

HE 100 Personal Health

LASC—Individual and Community Well-being

Physical, mental, emotional, social, psychological, environmental and spiritual aspects of well-being.
Offered every year. 3 credits.

HE 120 Health and Nutrition

Nutritional needs, weight control, healthy diets, myths, and nutritional aids to better health.
Offered every year. 3 credits.

HE/PE 140 Creative Arts and Health

An experiential and didactic introduction to making connections between the arts process, product and health.
Offered every year. 3 credits.

HE/PE 150 Health and Physical Education for the Teacher

The planning, development, implementation and evaluation of comprehensive health education programs
Offered every year. 3 credits.

HE 170 Humans in Motion

Concepts of the human neuro-musculoskeletal system which provide function and health across the life span under normal and stressful conditions.
Offered every year. 3 credits

HE 193 Special Topics in Health Sciences for First-year Students

All "193" classes are approved for LASC but may vary by section. See current course listing for specific LASC area approval.

Introductory level course covering topics of special interest to first-year students. Offered only as a First-year Seminar.
Offered every year. 3 credits.

HE 200 Consumer Health

Current information and guidelines to reliable sources necessary to develop critical and informed consumers of health products and services.
Offered every year. 3 credits.

HE 210 Women's Health Issues

Interactive processes of politics, power and media's influences on research, public health policy and current health issues.
Offered every year. 3 credits.

HE 220 Mental Health Education

Examination of mental health as a variable: its creation and the obstacles to sound mental health and positive self-concept.
Offered every 2 years. 3 credits.

HE 230 Human Sexuality and Sex Education

Focus on the need for and understanding of sex education, along with the process of implementing sexuality education, with emphasis on teacher preparation.
Offered every 3 years. 3 credits.

HE/PE 260 First Aid: Advanced Theory and Skill

Common emergencies, cardiopulmonary resuscitation, auto extrication, and emergency childbirth. Opportunity for instructor rating.
Offered every 3 years. 3 credits.

HE/PE 275 Fitness for Life

Knowledge of health-related fitness components and their effect on total wellness; emphasis on developing personalized fitness program.
Offered every year. 3 credits.

HE/PE 280 Individualized Stress Management and Relaxation

Strategies and techniques for increasing stress resistance based on psychophysiological research.
Offered every year. 3 credits.

HE 320 Aging and Death

Prerequisite: HE 100

Health implications revealed as psychological and social surrounding the phenomena of aging and death.
Offered every 2 years. 3 credits.

HE 340 Health Counseling

Prerequisite: PS 110 or 111

A study of the counseling implications involved in health. Awareness of the counseling process and referral.
Offered every 3 years. 3 credits.

HE 350 Community Health Education

Prerequisite: HE 100

Application of core competencies of community health education with an introduction to theory and program planning. Examination of local health agencies.
Offered every year. 3 credits.

HE 370 Critical Issues in Health

Prerequisite: HE 100

An examination of contemporary issues in health that have legal, ethical, moral and professional practice implications.
Offered every 3 years. 3 credits.

HE 385 Drugs and Society

Prerequisites: BI 161 and BI 162

Drug use and abuse, and implications for the individual and society.
Offered every year. 3 credits.

HE 390 Environmental Health

Prerequisite: HE 100

Examination of the issues affecting the environment and their impact on individual and global health.
Offered every year. 3 credits.

HE 400 Special Topics

Current issues in Health.
Offered every year. 3 credits.

HE 440 Practicum in Health

A field experience for health majors.
Offered every year. 3-6 credits.

HE 450 Independent Study in Health

Independent learning experiences designed and initiated by health majors.
Offered every year. 1-6 credits.

Community Health Courses

For information on the Liberal Arts and Sciences Curriculum (LASC), see page 36

HC 201 Introduction to Public Health

This course is an overview and will focus on populations, prevention, and the evidence-based practice of public health
Offered every year. 3 credits

HC 202 Introduction to Global Health

This course is an overview and will focus on the developing world from a population and prevention perspective
Offered every year. 3 credits

HC 203: Introduction to Epidemiology

Basic epidemiologic concepts are covered and application of concepts to everyday problems; e.g., hazards in food supplies and risks associated with lifestyle.
Offered every year. 3 credits

HC 220 Health Policy

Examination of the process and factors that influence formulation, implementation and modification of health policy in the United States.
Offered every 3 years. 3 credits

HC 228 Health Ethics

Ethical issues in health including genetic research, euthanasia, medical intervention and reproductive technologies as well as professional ethics.
Offered every 3 years. 3 credits

HC 233 Health Care Systems

The health care system with emphasis on issues relating to unequal access to health services and current plans to make change.
Offered every 3 years. 3 credits

HC 234 Multiculturalism and Health

Examination of diverse ethnic/racial and cultural beliefs and practices affecting health and illness.
Offered every 2 years. 3 credits

HC 235 Statistical Applications to Community Health

LASC—Quantitative Reasoning

Prerequisite: Placement code of 4 or above.

Descriptive statistics, elements of probability theory, and basic ideas of statistical inference applied to health issues.
Offered every year. 3 credits

HC 240 Program Planning and Evaluation for the Non-major

This course is designed to introduce non-majors to the principles of health program development through examination of current community programs and direct learning experiences.
Offered every year. 3 credits

HC 338 Peer Education Training

Prerequisite: HE 100

Emphasis on student development of practical skills to implement programming centered on peer education programs and focused on preventative health.
Offered every 3 years. 3 credits

HC 350 Group Process

Prerequisite: HE 100

A didactic and experiential examination of various theories of group dynamics and their application to the facilitation of health-related groups. Research paper.
Offered every 2 years. 3 credits

HC 403 Department Workshop in Community Health

The subject mater of this course will be reflective of the changing issues within the field of community health.
Offered every year. 3 credits

HC 410 Epidemiology

Prerequisite: MA 110

Evaluation of epidemiological principles and techniques of investigation, and measures of incidence, prevalence, and risk as applied to health, morbidity, mortality, and injuries in specific populations.
Offered every 2 years. 3 credits

HC 415 Community Health Planning and Promotion

Prerequisite: HE 100

Emphasis on community analysis; defining and verifying community health problems and establishing goals and objectives. Research paper.
Offered every year. 3 credits

HC 425 Research Seminar

Prerequisites: 3 HE/HC courses

Students will be required to produce a proposal for a research study based on a community public health issue.
Offered every year. 3 credits

HC 450 Practicum in Community Health

Prerequisites: 8 HE/HC courses

Field experience in which students will select a community health speciality area and spend a semester pursuing their goal through participation. (See HE 440 Practicum in Health).
Offered every year. 3-6 credits

History
Department of History and Political Science

Faculty

Joseph P. Baratta, Associate Professor (1999)
B.A., St. John's College; M.A., M.A.T., Ph.D., Boston University

Bruce S. Cohen, Associate Professor (1965)
A.B., M.A., Rutgers University

Aldo V. Garcia Guevara, Assistant Professor (2006)
B.A., University of North Carolina-Asheville; M.A., Ph.D., University of Texas-Austin

Michael Gesin, Assistant Professor (2007)
B.A., Worcester State College; M.A., Ph.D., Brandeis University

Charlotte Haller, Assistant Professor (2004)
B.A., Brown University; M.A., Ph.D., University of Wisconsin

Tona J. Hangen, Assistant Professor (2008)
B.S., Massachusetts Institute of Technology; Ph.D., Brandeis University

Peter Holloran, Associate Professor (1999)
A.B., Suffolk University; M.A., Ph.D., Boston University

Tanya Mears, Assistant Professor (2010)
B.S., Tuskegee University; M.A., Ph.D., University of Massachusetts, Amherst

Frank S. Minasian, Associate Professor of Political Science (1968), Department Chair
A.B., Clark University; M.A.T., Assumption College

Najib E. Saliba, Professor (1971)
A.B., Miami University; M.A., Ph.D., University of Michigan

Emmet A. Shea, Professor (1962)
B.S., Ed.M., M.A., Boston University; M.A., Boston College

Robert W. Smith, Assistant Professor (2007)
B.A., Syracuse University; M.A., Ph.D., College of William and Mary

The purpose of the discipline is to provide students with extensive course offerings to enable them to cope with a complex and ever-shrinking world. The study of history and political science also provides students with a broad background for a wide variety of professional occupational opportunities. Within the History major are concentrations in Public History, Pre-Law, and Foreign Service. The discipline also offers a minor in Middle East Studies,

an honors curriculum, and an honors seminar course taken at the American Antiquarian Society. Phi Alpha Theta, the national history honor society, is open to distinguished History majors even if they are not in the honors curriculum.

Requirements for a Major in History: 42 credits including:

HI 103 & HI 104 & HI 105	World Civilization I & II & III
HI 111 & HI 112	US History I & II

US History electives: 6 credits
European History electives: 6 credits
Area Studies electives: 6 credits
One other elective in history, which can be from the "General" category: 3 credits
Two (2) of the above electives must be at the 300 or 400 level

Course in historical methods, to be taken during sophomore or junior year: 3 credits
HI 411 The Historian's Craft (Prerequisites: HI 103, 104, 111 and 112) or HI 440 Internship (with departmental approval)

Senior capstone experience, usually taken during Fall of your senior year: 3 credits
HI 460 Senior Research Seminar in History, or HI 470 Senior Thesis in History.
If you are an Education double-major, the senior capstone may be fulfilled by submission of a History Learning Portfolio based on your student teaching experience.

Requirements for a Minor in History: 24 credits

HI 103 & HI 104 & HI 105	World Civilization I and II and III
HI 111 & HI 112	US History I and II
HI 411	The Historian's Craft

History electives: 6 credits

Requirements for a Minor in Middle East Studies: 18 credits

HI 261	Middle East History I
HI 314	Twentieth Century Middle East History
AB 101	Arabic I
AB 102	Arabic II

6 credits recommended by advisor

Requirements for a Major in History, Concentration in Public History: Juniors and seniors have the opportunity for independent study and off-campus internships. Students may receive academic credit for internships in history museums, historic restorations, historic libraries, archives, or in any one of a great variety of agencies in state, county, and local government. Internship/ independent study credit may be given for internships in private sector agencies which have a public interest. Public history concentrators will be able to complete the requirements for the history major and the political science minor.

Requirements for a Major in History, Concentration in Pre-Law: As a special preparation for law school, a minimum of 6 credits in constitutional history and a minimum of 15 credits in political science are required, as approved by the student's advisor. In addition to the core program, the student may select the remainder of the required hours for the degree from a wide variety of subjects. Pre-Law concentrators will be able to complete the requirements for the history major and the political science minor.

Requirements for a Major in History, Concentration in Foreign Service: Programs are individually planned with the student's advisor and prepare individuals for careers in the State Department and the intelligence community. In addition to required courses, students will be encouraged to elect courses in the areas of economics, languages, management, geography, and related fields.

Honors Curriculum: This program is open to qualified majors (juniors and seniors) who display outstanding abilities in historical studies in their first two years and are interested in pursuing a deeper and broader knowledge of the subject.

History Courses (Undergraduate)

For information on the Liberal Arts and Sciences Curriculum (LASC), see page 36

HI 103 World Civilization I

LASC—Global Perspectives; Thought, Language and Culture

Surveys economic, social, political, and intellectual development of world civilizations and their inter-relationship from ancient times to 1500
Offered every year. 3 credits.

HI 104 World Civilization II

LASC—Global Perspectives; Thought, Language and Culture

Surveys economic, social, political, and intellectual development of world civilizations and their inter-relationship from 1500 to 1914
Offered every year. 3 credits.

HI 105 World Civilization III

LASC—Global Perspectives; Thought, Language and Culture

Surveys economic, social, political, and intellectual development of world civilizations and their inter-relationship from 1914 to the present.

Offered every year. 3 credits

HI 111 US History I

LASC—Constitutions; United States and Its Role in the World

From colonization through the Civil War era. A study of politics, society, economy, diplomacy, and culture in that period.
Offered every year. 3 credits.

HI 112 US History II

LASC—Constitutions; United States and Its Role in the World

From the Civil War era to the present. Topics include politics, society, economy, and culture in modern America.
Offered every year. 3 credits.

HI 193 Special Topics in History for First-year Students

All "193" classes are approved for LASC but may vary by section. See current course listing for specific LASC area approval.

Introductory level course covering topics of special interest to first-year students. Offered only as a First-year Seminar.
Offered every year. 3 credits.

HI/PO 201 International Relations I

LASC—Global Perspectives; United States and Its Role in the World; Writing Across the Curriculum

Prerequisite: PO 101 or HI 103 or HI 104

Theory and practice of international security (realism and internationalism) and international political economy (liberalism and protectionism) in their historical context.
Offered every year. 3 credits.

HI/PO 202 International Relations II: Globalization

LASC—Global Perspectives; United States and Its Role in the World; Writing Across the Curriculum

Prerequisite: PO 101 or HI 103 or HI 104

The promise and problems of globalization (spread of free market capitalism and political democracy).
Offered every year. 3 credits.

HI 204 History of Science and Technology

LASC—Global Perspectives; Thought, Language and Culture

Progress of science from the Enlightenment, including applied science or technology from the 19th century. Complements History of Mathematics.
Offered every year. 3 credits.

HI 205 Native America

This survey covers the broad sweep of Native American history and focuses on the encounter between American and European civilizations and how Native culture has adapted through the centuries.
Offered every 2 years. 3 credits.

HI 206 A History of Warfare

An examination of the role of war in conflict resolution, great battles which changed history, and the impact of technology on war.
Offered every 2 years. 3 credits.

HI 207 American West: Myth and Reality

The historic development of the West, its impact on the American character, and a study of how myths become accepted "fact."
Offered every 2 years. 3 credits.

HI 208 American Immigrant History

Survey of immigration. Topics such as old-world background, impact on US, nativism, cultural pluralism, religion, mobility, family and politics.
Offered every year. 3 credits.

HI/PO 211 History of US Foreign Policy I

LASC—United States and Its Role in the World

Prerequisite: HI 111 or HI 112

Colonial origins to the era of the Spanish American War. The sources and development of US foreign policy in that period.
Offered every year. 3 credits.

HI/PO 212 History of US Foreign Policy II

LASC—United States and Its Role in the World

Prerequisite: HI 111 or HI 112

From 1900 to recent times: US foreign policy traditions and the challenges of great power status.
Offered every year. 3 credits.

HI 213 Colonial Latin America

The people of Latin America from Pre-Columbian societies to the wars for independence, focusing on race, sex and power.
Offered every other year. 3 credits.

HI 214 Modern Latin America

The people of Latin America from independence to the present, focusing on race, sex and power.
Offered every other year. 3 credits.

HI 215 History of American Thought

LASC—Thought Language and Culture; United States and Its Role in the World; Diversity Across the Curriculum; Writing Across the Curriculum

Prerequisites: HI 111 or HI 112

Explores the history of ideas in the United States, including major intellectual movements, thinkers, and texts. Cross-listed with Women's Studies.
Offered every 3 years. 3 credits.

HI 216 Economic History of the US

An introduction to United States economic development; particular attention will be paid to industrialization and the labor force.
Offered every year. 3 credits.

HI 217 US Social History

LASC—Thought Language and Culture; United States and Its Role in the World; Diversity Across the Curriculum; Writing Across the Curriculum

Survey of social and cultural history. Topics such as family, religion, education, popular literature, architecture, transportation and reform.
Offered every 2 years. 3 credits.

HI/PO 218 US Constitutional History I

The development of constitutional history as seen in decisions of the US Supreme Court and their effects from 1789 to 1921.
Offered every 2 years. 3 credits.

HI/PO 219 US Constitutional History II

Supreme Court decision-making since 1921: federal-state relations, civil liberties, civil rights, loyalty program, labor, rights of defendants.
Offered every 2 years. 3 credits.

HI 221 African-American History I

The people of African descent from the emergence of the slave trade to the Civil War, focusing on race, gender, and power.
Offered every year. 3 credits.

HI 222 African-American History II

The people of African descent from the end of the Civil War through the twentieth century, focusing on race, gender, and power.
Offered every year. 3 credits.

HI 223 History of Modern France

Prerequisite: HI 103 or 104

Domestic and foreign problems of nineteenth and twentieth century France.
Offered every 2 years. 3 credits.

HI 224 English History I

LASC—Thought Language and Culture; Writing Across the Curriculum

Prerequisite: HI 103 or HI 104

English history from earliest settlement to the reign of Elizabeth I. Origins of the Common Law, Parliament, and English liberty.
Offered every year. 3 credits.

HI 225 English History II

LASC—Writing Across the Curriculum

Prerequisite: HI 224

English history through the English Revolution, the Industrial Revolution, the British Empire, the World Wars, and decline.
Offered every year. 3 credits.

HI 226 Latin American History through Film

This course will explore how filmmakers have portrayed Latin American History in their movies.
Offered every 3 years. 3 credits.

HI 230 Nicaragua, the US and the World

LASC—United States and Its Role in the World; Diversity Across the Curriculum

The course will examine the impact of globalization and imperialism on the lives of Nicaraguans at home and in their diasporic communities.
Offered every year. 3 credits.

HI 231 European Intellectual History I

Prerequisite: HI 103 or HI 104

The main theoretical works, philosophic, psychological and scientific, from Plato to the eighteenth century.
Offered every 3 years. 3 credits.

HI 232 European Intellectual History II

Prerequisite: HI 103 or HI 104

The main theoretical works, philosophic, psychological and scientific, of the nineteenth and twentieth centuries.
Offered every 3 years. 3 credits.

HI 234/HI 235 Russian History I and II

A study of major political, economic, social, intellectual, and diplomatic currents in Russia, from the Kievan era to Stalin.
Offered every 2 years. 3 credits each.

HI 236/HI 237 Modern Far East History I and II

Civilizations dramatically different from our own, focusing upon China, Japan, and Southeast Asia since 1600.
Offered every year. 3 credits each.

HI 240 History of American Popular Culture

This course is an introduction and survey of the multidisciplinary field of American Popular Culture, analyzing popular or non-elite culture in the United States from the colonial era to present.
Offered every year. 3 credits.

HI 241 English Constitutional History

Development of English Constitution from Magna Carta through revolution, supremacy of Parliament, reform acts, entry into European Union, and devolution.
Offered every 2 years. 3 credits.

HI 242 History of Early Modern Europe

Forces that shaped Europe since the Reformation: the political, economic, and intellectual context of the external expansion as well as the internal turmoils, such as the Thirty Years War and the European economy to 1789.
Offered every 3 years. 3 credits.

HI 244 American Urban History

The process of accelerating urbanization in America since the nineteenth century: cultural, social, economic and political aspects of urban life.
Offered every 3 years. 3 credits.

HI 245 History of Modern Germany I

The origins and growth of Brandenburg-Prussia; their impact on the rest of Germany from the foundation of the Holy Roman Empire to the emergence of the Second Reich in 1871.
Offered every 3 years. 3 credits.

HI 246 History of Modern Germany II

German economic and political crises from 1870 to the present.
Offered every 3 years. 3 credits.

HI 247 Central America and the Caribbean

This survey examines the political, cultural and social history of Central America and the Caribbean from pre-Columbian times to the present with an emphasis on the 20th century.
Offered every 3 years. 3 credits.

HI 249 US Labor History I

The relationship between workers, their employers, and the surrounding community between 1815 and World War II.
Offered every 2 years. 3 credits.

HI 257 Political Terrorism in Historical Perspective

A comparative approach to the terrorist movements of the nineteenth and twentieth centuries, concentrating on the European groups.
Offered every 2 years. 3 credits.

HI 258 Russia Since the Stalin Era

An analysis of the major political, economic and diplomatic developments in the (former) Soviet Union since the death of Stalin; the formation of the Commonwealth of Independent States.
Offered every 2 years. 3 credits.

HI 260 Egypt Since 1798

A discussion of Napoleon's occupation of Egypt, the rise of Muhammad 'Ali, Suez Canal, British Occupation, Egyptian Nationalism, Nasser's Revolution.
Offered every 3 years. 3 credits.

HI 261 Middle East History I

LASC—Global Perspectives; Thought, Language and Culture

The rise and expansion of Islam: the Caliphate, Muslim religion, civilization, and its impact on the West, decline of medieval Islam.
Offered every 2 years. 3 credits.

HI 262 Middle East History II: The Ottoman Empire, 1289-1920

LASC—Global Perspectives; Writing Across the Curriculum

The Ottoman Empire: expansion, institutions, impact on Europe, decline of the Empire.
Offered every 2 years. 3 credits.

HI 263 US – Middle East Relations

LASC—Global Perspectives; United States and Its Role in the World

Prerequisite: HI 103 or HI 104 or HI 111 or HI 112

Course will discuss the influence the Middle East has had on US policy since US independence to the present.
Offered every 2 years. 3 credits.

HI 264 American Constitutional Law

American Constitutional Law; civil liberties, rights of criminal defendants, Federal-state relations, interpreting the Constitutions.
Offered every 2 years. 3 credits.

HI 267 US – Latin American Relations

LASC—United States and Its Role in the World; Diversity Across the Curriculum; Writing Across the Curriculum

Will analyze the political, economic, social, and cultural impact of the interactions between and among the governments and people of the US and Latin America.
Offered every year. 3 credits.

HI 271 Women and Work in Historical Perspective

Prerequisite: HI 103 or HI 104 or HI 111 or HI 112

This course undertakes to examine women's work conditions and the opposition to its continuation in Europe and America, 16th-19th centuries.
Offered every 2 years. 3 credits.

HI 273 Ideas of Men and Women in Historical Perspective

Prerequisite: HI 103 or HI 104 or HI 111 or HI 112

This survey course focuses on ideas about the sexes which have predominated in the West.
Offered every 2 years. 3 credits.

HI 274 Sex, Marriage and the Family in Historical Perspective

Prerequisite: HI 103 or HI 104 or HI 111 or HI 112

This course will undertake a study of courtship, marriage and family life-cycle patterns in England and America during the 19th century.
Offered every 2 years. 3 credits.

HI 290 Health and Healing in America

LASC—Individual and Community Well-Being; Thought, Language and Culture; Writing Across the Curriculum

Explores topics in the history of medicine, health, disease, and healing in US history.
Offered every 2 years. 3 credits.

HI 300 The Early National Period of the US: 1783-1829

Prerequisite: HI 111

The Confederation, Constitution, the emergence of political parties, and the rise of American nationality.
Offered every 3 years. 3 credits.

HI 302 Medieval History

Prerequisite: HI 103

Cultural, social, and diplomatic European history of the Middle Ages from fall of the Roman Empire until the rise of the Renaissance.
Offered every 3 years. 3 credits.

HI 303 Colonial History I

Prerequisites: HI 111, HI 112

European background and reasons for American colonization, intercolonial rivalries, formation of the 17th century English colonies. British colonial policy to 1689.
Offered every 2 years. 3 credits.

HI 305 Ancient History

Prerequisite: HI 103

The history, culture, and politics of ancient Greece and Rome.
Offered every 2 years. 3 credits.

HI 306 Renaissance and Reformation

Prerequisite: HI 103

Intellectual and cultural history of Europe from the middle of the thirteenth to the middle of the sixteenth century.
Offered every 3 years. 3 credits.

HI 308 Europe in the Age of Revolution and Nationalism: 1789-1870

Prerequisite: HI 103 or HI 104

The French Revolution, Napoleon, Congress of Vienna; nationalism, liberalism, socialism; Second French Empire; German and Italian unification.
Offered every 2 years. 3 credits.

HI 310 Massachusetts History

Prerequisites: HI 111 or HI 112

A survey of Massachusetts history from its colonial origins to the present era, including the social, economic, political, constitutional development of state history and culture.
Offered every year. 3 credits.

HI 312 Twentieth Century Europe I

Prerequisites: HI 103 or HI 104

The politics and economics of WW I; the pattern of restlessness between the wars in the rise of dictatorship in Germany, Italy, and Spain; the regimentation of economic control.
Offered every 2 years. 3 credits.

HI 313 Twentieth Century Europe II

Prerequisites: HI 103 or HI 104

Politics and diplomacy of World War II; the dynamics of the rebirth of Europe since VE Day. The effects of total war upon Europe.
Offered every 2 years. 3 credits.

HI 314 Twentieth Century Middle East History

Prerequisite: HI 103 or HI 104 or HI 105 or HI 111 or HI 112 or HI 261

The Young Turk Revolution, division of Ottoman Empire in World War I; rise of new states; the Arab-Israeli conflict.
Offered every 2 years. 3 credits.

HI 316 American-Russian Relations 1781 - Present

Prerequisite: HI 104 or HI 105 or HI 111 or HI 112

An analysis of American-Russian relations from their inception to the present, stressing the period since 1917.
Offered every 2 years. 3 credits.

HI 317 The US and East Asia

Prerequisite: HI 104 or HI 105 or HI 111 or HI 112

An examination of the American role in East Asia, focusing upon American-Chinese relations, American-Japanese relations, and the Indo-China conflict.
Offered every 3 years. 3 credits.

HI/PO 320 Citizen Nation

LASC—Constitutions; Thought, Language and Culture; United States and Its Role in the World; Diversity Across the Curriculum; Writing Across the Curriculum

Prerequisites: HI 111 or HI 112

Explores the history and meaning of citizenship in the United States, including discrimination, rights struggles and changing citizenship criteria.
Offered every 3 years. 3 credits.

HI/PO 330 Politics of the Middle East I

Prerequisite: HI 104 or HI 105 or HI 111 or HI 112 or PO 101 or HI 261 or HI 314

Discusses governments and politics of eastern Arab countries, Turkey, Iran, and Israel. International rivalries in the area are also discussed.
Offered every year. 3 credits.

HI 333 Women in Latin America

Prerequisite: HI 233 or equivalent

Examines the roles of women in diverse societies including Mexico, Brazil and Caribbean nations. Emphasis on the modern period.
Offered every 3 years. 3 credits.

HI 345 Religions in America

LASC—Thought, Language and Culture; United States and Its Role in the World; Diversity Across the Curriculum; Writing Across the Curriculum

Prerequisites: HI 111, HI 112 or HI 113

Considers topics in American religious history and explores religious diversity in the past and in contemporary United States.
Offered every 3 years. 3 credits.

HI 349 America on Film

Prerequisite: HI 111 or HI 112

This course examines the origins and nature of the U.S. film industry and how it uses and abuses history from 1893 to the present.
Offered every 2 years. 3 credits.

HI 350 Native American Women

Prerequisite: HI 205 or equivalent

Examines Indian women from the time of European contact to the modern era. Emphasizes culture, community and arenas of power.
Offered every 3 years. 3 credits.

HI 351 Age of Jackson

Prerequisites: HI 111 or HI 112

Political, social, economic, and intellectual developments in the second quarter of the nineteenth century.
Offered every 3 years. 3 credits.

HI 352 Civil War and Reconstruction

Prerequisite: HI 111

Sectionalism, slavery, and modern industrial warfare as well as their impact on the political and racial fabric of America.
Offered every 2 years. 3 credits.

HI 353 The Age of Reform: 1877-1920

Prerequisites: HI 111, HI 112

An analysis of the transformation of America, including reform response to the Gilded Age's industrialization, urbanization, and immigration patterns.
Offered every 2 years. 3 credits.

HI 354 Twentieth Century US History

Prerequisites: HI 104 or HI 105 or HI 111 or HI 112 or HI 113

Contemporary American civilization from the Harding Administration into the post-World War II period.
Offered every year. 3 credits.

HI 356 The History of the Cold War

Prerequisites: HI 104 or HI 105 or HI 112 or HI 113

The origins of the Cold War, American, Soviet and Chinese foreign policies, arms control negotiations and future prospects.
Offered every 3 years. 3 credits.

HI 366 American Revolutionary Period

Prerequisites: Consent of instructor

Basic problems between English colonies and mother country, military aspects of the American Revolution, Confederation Period, making of the Constitution.
Offered every 2 years. 3 credits.

HI 400 Independent Study in History

Prerequisite: Consent of instructor

Special topics for advanced research and study under the guidance of a faculty member.
Offered every year. 1 - 3 credits.

HI 411 The Historian's Craft

Prerequisites: HI 103, HI 104, HI 111, HI 112

A methods course providing hands-on exploration of American history as both a professional field and a scholarly discipline.
Offered every year. 3 credits.

HI 420 Seminar in American Constitutional History

Prerequisite: Consent of instructor

Reading, research and discussion on a specially selected phase of American constitutional development; an original paper of significant scholarship is required.
Offered every 3 years. 3 credits.

HI 430 European History and Historians

Prerequisite: Consent of instructor

The study of Europe's major schools of historical thought with emphasis on how Europe's history has been written.
Offered every 3 years. 3 credits.

HI 435 Issues in Modern Middle East

Prerequisite: HI 261 or HI 314 or HI 330

Emphasizes reading, research and writing. Students will choose issues, research them, make a class presentation, then develop the presentation into a paper.
Offered every 3 years. 3 credits.

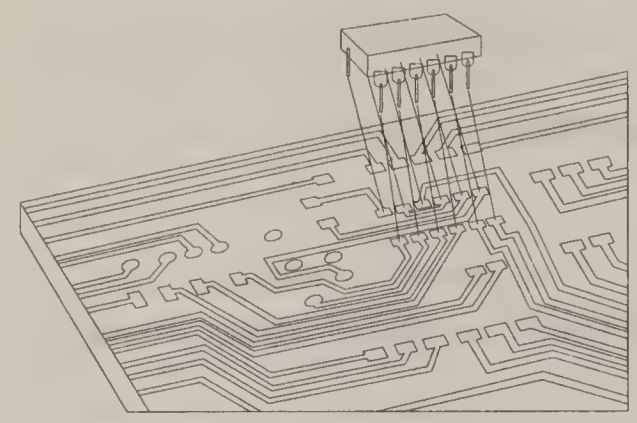
HI/PO 440 Internship in American Studies

Prerequisite: Consent of instructor

Internships in museums, archives, government agencies, etc. Performing a variety of tasks at beginning professional level in cooperating institutions.
Offered every year. 3-6 credits.

HI 450 Special Topics in History

Selected areas of interest to students and instructors.
Offered every year. 3 credits.



Information Technology

Minor in Information Technology

Faculty Coordinator

Aparna Mahadev, Professor of Computer Science (1999)
B.Sc., University of Madras, India; M. Sc., University of Madras, India;
M.S., Indian Institute of Technology, India; Ph.D University of Waterloo, Canada

The Information Technology minor is an interdisciplinary minor that gives students the opportunity to develop skills and capabilities for the effective use of information technology in their discipline. This minor is available for all non-Computer Science majors and is designed to address information technology needs and career interests whatever their major is.

To obtain a minor in information technology, students need to complete six (6) courses for a total of 18+ credits.

Required Course:

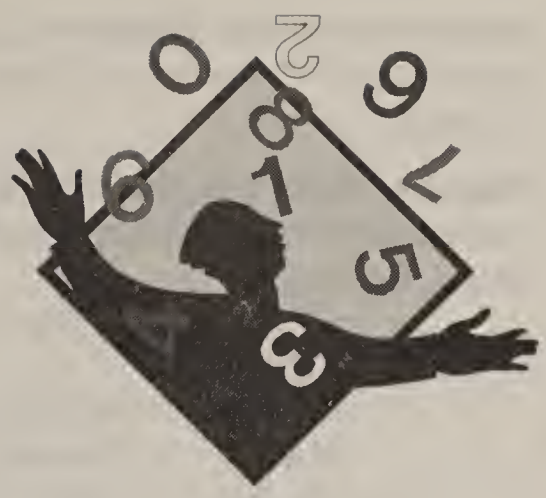
CS 130 Fundamentals of Information Technology

Two Courses from Group I: Courses in this group will discuss the representation and manipulation of data in digital form. This may include the conversion process of the data from a form outside the computer, the issues and trade-offs involved in developing a representation, and the algorithms used for the manipulation and transformation of data.

Two courses from Group II: Courses in this group involve intensive, discipline-specific use of computers (beyond email, word processing, basic spreadsheets, presentation software and web browsing).

One course from Group III: Courses in this group will discuss information technology and its impact on society. At least 1/3 of the course content should relate to information technology.

The list of courses under each of the above three groups varies from semester to semester. Students are strongly encouraged to contact the Information Technology minor coordinator before registering for classes.



Mathematics
Department of Mathematics

Faculty

Richard Bisk, Professor (2001), Department Chair
B.A., Drew University; M.S., University of New Hampshire; A.S.A., Society of Actuaries; Ph.D., Clark University

Mary S. Fowler, Associate Professor (2004)
B.A., New York University; M.S., Ph.D., Carnegie Mellon University

Maria G. Fung, Associate Professor (2008)
B.A., M.S., Ph.D., Cornell University

Marshall J. Kotzen, Associate Professor (1969)
B.S., Tufts University; M.S., University of New Hampshire

Raynold Lewis, Professor (1998)
BTH, West Indies College; M.Ed., Worcester State College; Ph.D., Illinois State University

Eileen B. Perez, Math Lab Coordinator (2008)
B.S., M.S., Union College

Susan L. Schmoyer, Assistant Professor (2009)
B.S., Randolph-Macon Woman's College; M.S., Virginia Tech, Ph.D., University of Maryland

Hansun T. To, Associate Professor (2004)
B.A., Rosemont College; M.A., Ph.D., Temple University

Vasfiye Hande Tuzel, Assistant Professor (2009)
B.S., M.S., Istanbul Technical University; M.S., Ph.D., University of Minnesota

Michael Winders, Associate Professor (2004)
B.S., M.S., Ph.D., University of Iowa

The Department prepares its students for advanced study and research as well as for careers in business, industry, government and teaching. Students are encouraged to seek the advice of their faculty advisor in the selection of a concentration and elective courses that will best prepare them for their career choices.

Mathematics is the language of science and also plays a key role in many of the social sciences. An understanding of mathematics provides a powerful approach to solving problems through organization, simplification, and abstraction. In today's job market, individuals with highly developed analytical and problem-solving skills are in great demand. Therefore there are numerous career options for students who choose to major in mathematics.

Computer software is used in many of our courses. These programs include Maple, Converge, Minitab, Matlab, Geometer's Sketchpad, and DPGraph.

Admission Requirements for the Mathematics Major: Rigorous high school coursework and strong SAT scores with above average grades in mathematics and computer science courses.

Requirements for a Major in Mathematics: Students must complete a core of six mathematics courses and one computer science class and in addition select one of three concentrations.

Core Courses: 24 credits

MA 200	Calculus I
MA 201	Calculus II
MA 240	Theory of Proof
MA 260	Linear Algebra
MA 310	Calculus III
CS 135	Programming for Non-CS Majors
MA 470	Capstone Experience

MA 200, MA 201 and MA 240 must be completed with grades of at least C- by the end of the sophomore year. A student may only retake any of these courses at most once to increase a grade below C-; and may retake at most two of these courses to increase a grade below C-.

Requirements for the Concentration in Traditional Mathematics: 18 credits

MA 320	Ordinary Differential Equations
MA 405	Abstract Algebra
MA 410	Real Analysis

Nine additional credits of mathematics at the MA 290-level or above, to be chosen in consultation with the academic advisor.

Requirements for the Concentration in Secondary Education: 18 credits

MA 302	Probability and Statistics
MA 340	Modern Geometry
MA 405	Abstract Algebra **or** MA 410 Real Analysis
MA 360	Number Theory
MA 303	Mathematical Modeling

Three additional credits of mathematics at the MA 290-level or above, to be chosen in consultation with the academic advisor.

We recommend that students planning to take the Massachusetts Test for Educator Licensure (MTEL) for high school certification also complete a physics course.

Requirements for the Concentration in Statistics and Modeling: 18 credits

MA 302	Probability and Statistics
MA 303	Mathematical Modeling
MA 304	Data Analysis
MA 380	Probability Theory
MA 410	Real Analysis

Three additional credits of mathematics at the MA 290-level or above, to be chosen in consultation with the academic advisor.

Requirements for a Traditional Minor in Mathematics: 18 credits

MA 200 Calculus I
MA 201 Calculus II
MA 220 Discrete Mathematics I or MA 240 Theory of Proof
Electives: minimum of 7 credits in mathematics 290 and above

Requirements for a Financial Mathematics Minor: 18 credits

MA 200 Calculus I
MA 201 Calculus II
MA 310 Calculus III
MA 380 Probability Theory
MA 381 Probability Theory II for Actuarial Science

Requirements for a Middle School Mathematics Minor: 18 credits

MA 130 Number and Operations for Teachers
MA 131 Patterns, Functions, and Algebra for Teachers
MA 132 Geometry, Measurement, Probability, and Statistics for Teachers
MA 200 Calculus I
MA 201 Calculus II
MA 220 Discrete Mathematics or MA 240: Theory of Proof **or** MA 303 Math Modeling

Mathematics Placement

All new students must take the Accuplacer Arithmetic test followed by the Accuplacer Elementary Algebra test. Those who score well on these two basic tests will take an Algebra II/Pre-Calculus test called the College Level Math test. In order to take a mathematics course at Worcester State, a student must complete the placement test process prior to registration. Results will be used to determine appropriate course placement.

Mathematics Courses

For information on the Liberal Arts and Sciences Curriculum (LASC), see page 36

MA 098 Arithmetic Developmental Math

Whole numbers, fractions, decimals, percents, rates, ratios, proportions, word problems, graphs, tables, signed numbers, variables and expressions.
Offered every semester. 3 remedial credits. Credits do not count towards graduation.

MA 099 Elementary Algebra Developmental Math

Elementary algebra: including linear, quadratic, and rational equations, exponents, polynomials, graphing linear and simultaneous equations, factoring, and radicals.
Offered every semester. 3 remedial credits. Credits do not count towards graduation

MA 105 Survey of Mathematics

LASC—Quantitative Reasoning

Prerequisite: Placement code 3 or above

Financial management, probability theory, voting methods and other topics selected to improve the quantitative literacy of students.
Offered every semester. 3 credits.

MA 110 College Algebra

LASC—Quantitative Reasoning

Prerequisite: Placement code 5 or above

Properties and applications of linear, quadratic, polynomial, rational, exponential, and logarithmic functions; systems of equations and inequalities; complex numbers.
Offered every semester. 3 credits. Credit will not be awarded for both MA 110 and MA 131.

MA 130 Number and Operations for Teachers

LASC—Quantitative Reasoning

Prerequisite: Placement code 5 or above

Develops understanding of the mathematical content of number and operations at the deep level required for successful elementary and middle school teaching.
Offered every semester. 3 credits.

MA 131 Patterns, Functions and Algebra for Teachers

LASC—Quantitative Reasoning

Prerequisite: MA 130 with a grade of at least C

Develops understanding of the mathematical content of patterns, functions and algebra at the deep level required for successful elementary and middle school teaching.
Offered every year. 3 credits. Credit will not be awarded for both MA 110 and MA 131.

MA 132 Geometry, Measurement, Probability and Statistics for Teachers

LASC—Quantitative Reasoning

Prerequisite: MA 130 with a grade of at least C

Develops understanding of the mathematical content of geometry, measurement, probability and statistics at the deep level required for successful elementary and middle school teaching.
Offered every year. 3 credits

MA 150 Statistics I

LASC—Quantitative Reasoning

Prerequisite: Placement code 4 or above

Descriptive techniques, elementary probability, and introduction to statistical inference.
Offered every semester. 3 credits. Credit will not be awarded for both MA 150 and MA 302.

MA 190 Precalculus

LASC—Quantitative Reasoning

Prerequisite: MA 110 with a grade of at least C- or placement code 6 or above

Analytic geometry; exponential and logarithmic functions; trigonometric functions, identities and equations, systems of linear equations and inequalities, applications.
Offered every semester. 4 credits.

MA 193 Special Topics in Mathematics for First-year Students

All "193" classes are approved for LASC but may vary by section. See current course listing for specific LASC area approval.

Prerequisite: Placement code 5 or above or permission of instructor

Introductory level course covering topics of special interest to first-year students. Offered only as a First-year Seminar.
Offered every year. 3 credits.

MA 200 Calculus I

LASC—Quantitative Reasoning

Prerequisite: MA 190 with a grade of at least C- or Placement code 7

Limits, continuity, differentiation and integration of functions, the Fundamental Theorem of Calculus, L'Hôpital's Rule, applications including related rates, optimization, and area.
Offered every semester. 4 credits. Credit will not be awarded for both MA 200 & MA 202

MA 201 Calculus II

LASC—Quantitative Reasoning

Prerequisite: MA 200 with a grade of at least C-

Techniques of integration, infinite sequences and series, power series, applications including area, volume, and functional approximation.
Offered every semester. 4 credits.

MA 202 Business Calculus

Prerequisite: MA 110 with a grade of at least C- or Placement code 6 or above

Limits, derivatives of algebraic functions, integration, business applications.
Offered every year. 4 credits. Credit will not be awarded for both MA 200 & MA 202

MA 220 Discrete Mathematics

LASC—Quantitative Reasoning

Prerequisite: MA 190 or MA 200 with a grade of at least C- or Placement code 7

Sets, algorithms, directed graphs, relations, matrices, equivalence relations, partial orders, functions, logic, mathematical induction.
Offered every year. 4 credits Credit will not be awarded for both MA 220 and MA 240

MA 240 Theory of Proof

Prerequisite: MA 200 with a grade of at least C- (may be taken concurrently with permission of the department)

Logic, set theory, mathematical induction, relations, functions, sequences and convergence, limits and continuity, congruence, introduction to groups.
Offered every year. 3 credits. Credit will not be awarded for both MA 220 and MA 240

MA 260 Linear Algebra

Prerequisite: MA 220 or MA 240 with a grade of at least C-

Solutions of simultaneous equations by means of matrices and determinants, vector spaces, linear transformations. Optional topics: characteristic values, bilinear and quadratic forms.
Offered every year. 3 credits.

MA 290 Discrete Mathematics II

Prerequisite: MA 220 or MA 240 with a grade of at least C-

Counting techniques, permutations, combinations, factorization, modular arithmetic, binary numbers, Boolean algebra, recursion and recurrence relations, graphs and trees, elementary linear algebra.
Offered every year. 4 credits.

MA 302 Probability and Statistics

Prerequisite: MA 200 with a grade of at least C-

Probability, descriptive techniques, inference, correlation, regression, chi-square, ANOVA, contingency tables.
Offered every year. 3 credits. Credit will not be awarded for both MA 150 and MA 302.

MA 303 Mathematical Modeling

Prerequisite: MA 201 with a grade of at least C-

The development and application of deterministic and probabilistic mathematical models from the physical, social and life sciences.
Offered every 2 years. 3 credits.

MA 304 Data Analysis

Prerequisites: MA 302 and CS 265 with grades of at least C-

Case studies combining applied statistics, mathematical statistics, mathematics, computing, and communications to simulate work experience of a practicing statistician.
Offered every 3 years. 3 credits.

MA 310 Calculus III

Prerequisite: MA 201 with a grade of at least C-

Vectors, parametric equations, polar, cylindrical and spherical coordinates, multivariable functions, properties and applications, partial derivatives, multiple integrals.
Offered every year. 4 credits.

MA 320 Ordinary Differential Equations

Prerequisite: MA 310 (may be taken concurrently) with a grade of at least C-

Techniques for solving first and higher order differential equations, Laplace transforms, Fourier series and power series solutions.
Offered every year. 3 credits.

MA 340 Modern Geometry

Prerequisite: MA 220 or MA 240 with a grade of at least C-

Topics from Euclidean and non-Euclidean geometry.
Offered every year. 3 credits.

MA 350 History of Mathematics

Prerequisite: MA 220 or MA 240 with a grade of at least C-

Surveys the development of algebra, arithmetic, plane geometry and trigonometry by tracing certain fundamental concepts in mathematics from Euclid to the present.
Offered every year. 3 credits.

MA 360 Number Theory

Prerequisite: MA 220 or MA 240 with a grade of at least C-

Divisibility properties of integers, prime numbers, the Euclidean algorithm, the unique factorization theorem, congruence, Diophantine equations, number theoretic functions.
Offered every year. 3 credits.

MA 380 Probability

Prerequisite: MA 310 with grade of at least C-.

Continuous and discrete probability concepts including: conditional probability, independence, moments of univariate and multivariate random variables. This is the first course in a two course sequence that prepares students for the first Actuarial exam.
Offered every 3 years. 3 credits.

MA 381 Probability Theory for Actuarial Science

Prerequisite: MA 380 with grade of at least C-.

Probabilities, conditional probabilities, moment-generating functions, moments and expectations of specific parametric distributions including Poisson, geometric, hypergeometric, exponential, and normal.
Offered every 3 years. 3 credits.

MA 405 Abstract Algebra

Prerequisite: MA 260 with a grade of at least C-

Sets, mathematical systems, groups, rings, fields.
Offered every year. 3 credits.

MA 410 Real Analysis

Prerequisites: MA 240 and MA 310 with grades of at least C-

Rigorous treatment of sequences, topology of the real numbers, limits and continuity.
Offered every year. 3 credits.

MA 470 Capstone Experience

Prerequisite: Senior standing in the mathematics major.

Students complete an independent mathematics research/problem-solving project, including oral presentations and a final written paper.
Offered every year. 3 credits.

Music

Department of Visual and Performing Arts

Faculty

Kyle D. Martin, Professor (1998)
B.M., Hardin-Simmons University; M.M., D.M.A., Eastman School of Music

Christie B. Nigro, Professor (1989)
B.M., Syracuse University; M.M., Yale University; Ph.D., University of Massachusetts

Robert K. Sahagian, Professor (1968)
B.M., New England Conservatory of Music; M.M., Ph.D., Michigan State University

The music faculty offers courses in the performance, history, the theory of music and applied music. Students are provided with opportunities to perform in ensembles as well as take a wide variety of classroom courses to enhance musical understanding and literacy.

Requirements for a Major
The newly instituted Interdisciplinary Visual and Performing Arts Major offers concentrations in Art, Music, or Theatre. *See Visual and Performing Arts Department.*

Requirements for a Minor in Music: 18 credits in music of which 3 credits are required in each of the following: Music Theory (MU 100 Music Fundamentals or MU 205 Harmony I), Music History (MU 115 Music Appreciation or historical period courses), and Applied Studies (private lessons or ensembles).

Music Courses

For information on the Liberal Arts and Sciences Curriculum (LASC), see page 36

MU 100 Music Fundamentals

LASC—Creative Arts

An introduction to the rudiments of music theory, including pitch and rhythmic organization. Emphasis is placed on intervals, major and minor scales, reading and writing rhythm, and chord structures.
Offered every year. 3 credits.

MU 101 Fundamentals of Music and Aural Skills

An introduction to reading and writing conventional music notation, the fundamentals of music theory, and basic aural skills. Emphasis will be placed on intervals, scales, chords, rhythmic values, sight-singing, melodic dictation, and aural recognition of intervals and chords.
Offered every year. 3 credits

MU 102 Applied Music

Prerequisite: Audition required

Instruments offered: Piano, voice, clarinet, flute, saxophone, trumpet, trombone, French horn, violin, cello, percussion, classical guitar, organ. Instructors for other instruments may be arranged by special request to Music Department. Private instruction in an instrument or voice, one-half hour lesson per week. Studio fee required. May be repeated.
Offered every year. 1 credit.

MU 115 Music Appreciation

LASC—Creative Arts

A general survey of masterpieces of the major composers of various periods in the history of music.
Offered every year. 3 credits.

MU 125 Jazz Appreciation

Surveys the history of jazz, beginning with the earliest roots in the American South to today.
Offered every year. 3 credits.

MU 140 World Music

LASC—Creative Arts

An introduction to music of various cultures and continents including music of Africa, Asia, Latin America, The Middle East and India.
Offered every year. 3 credits.

MU 150 Opera

Analysis of the masterworks of the standard operatic repertoire.
Offered every year. 3 credits.

MU 175 Music in America

A survey of music history and literature in America including gospel spirituals, jazz, popular and classical music.
Offered every 3 years. 3 credits.

MU 190 Class Piano

Prerequisite: MU 100 or MU 101

Basic piano proficiency. Class topics will include an introduction to the keyboard, hand position, and music theory. Solo literature appropriate to the level will be studied.
Offered every year: 1 credit

MU 193 Special Topics in Music for First-year Students

All "193" classes are approved for LASC but may vary by section. See current course listing for specific LASC area approval.

Introductory level course covering topics of special interest to first-year students. Offered only as a First-year Seminar.
Offered every year. 3 credits.

MU 195 Class Guitar

Prerequisite: MU 100 or MU 101

An introduction to playing the guitar, including technique, reading tabs and notation, and harmonization of melodies with chords. Solo literature appropriate to the level will be studied. Students are required to provide an instrument.
Offered every year: 1 credit

MU 200 Issues in Music

This course deals with topics of special interest, in both seminars and applied environments at an introductory level.
Offered every other year. 3 credits.

MU 202 Applied Music

Prerequisite: Audition required

Note: Please refer to instrument listing for MU 102
Private instruction in an instrument or voice, one-half hour lesson per week. Studio fee required. May be repeated.
Offered every year. 1 credit.

MU 204 Composition

Prerequisite: MU 100 or MU 101

An introduction to compositional methods and techniques. Students develop personal expression by creating musical works while exploring use of melody, harmony, timbre, rhythm, texture, and tonality within conventional musical forms.
Offered every other year. 3 credit.

MU 205 Harmony I

LASC—Creative Arts

Prerequisite: MU 100

Analysis and application of harmonization techniques using diatonic chords. Further emphasis is placed on voice-leading, figured bass, melodic construction, and embellishing tones.
Offered every year. 3 credits.

MU 210 Harmony II

LASC—Creative Arts

Prerequisite: MU 205

Analysis and application of harmonization techniques using diatonic and chromatic chords. Emphasis is placed on voice-leading, non-chord tones, secondary chords, and modulation.
Offered every year. 3 credits.

MU 213 Music Technology of MIDI Systems and Digital Audio

Prerequisite: MU 100 or knowledge of notation and department consent

Offers study in MIDI/Digital Audio Systems and electronic music synthesis in a PC environment. Prepares student interested in audio engineering.
Offered every year. 3 credits.

MU 215 Chorus and Music Theory

LASC—Creative Arts

Prerequisite: Audition required

Mixed choral repertoire and performance, covering vocal problems and techniques. Introduction to music theory, rhythms, intervals, basic chordal structures, harmonization. Participation in college chorus required.
Offered every year. 3 credits.

MU 220 Chorus

Prerequisite: MU 215

Mixed chorus repertoire. May be repeated.
Offered every semester. 1 credit .

MU 225 Band

LASC—Creative Arts

Prerequisite: Audition required

Study and experience in repertoire and performance. May be repeated.
Offered every year. 1 credit.

MU 226 Band and Music Theory

LASC—Creative Arts

Prerequisite: Audition required

Study and experience in music notation and style of instrumental music. Participation in college band required.
Offered every year. 3 credits.

MU 230 New England Jazz Artists

To enhance the student's knowledge of jazz by studying and analyzing the music of the great jazz artists and venues of the New England area.
Offered every year. 3 credits.

MU 231 Women in Music

LASC—Creative Arts; Thought, Language and Culture

A survey of the role of women in music, particularly the great women composers from Medieval to Contemporary times.
Category1. 3 credits.

MU 234 Music of the Baroque Period

The period 1600-1750 with emphasis on Bach and Handel.
Offered every 3 years. 3 credits.

MU 235 Music of the Classical Period

The period 1750-1827; Haydn, Mozart and Beethoven.
Offered every 3 years. 3 credits.

MU 237 Music in the Elementary School

LASC—Creative Arts

Discover the benefits of using music to enrich general education from preschool through high school. Develop your own musicianship through learning to use your singing voice, learning to play the recorder, learning to read notation and gaining an overview of western music history.
Offered every year. 3 credits.

MU 240 Music of the Romantic Period

A survey of nineteenth-century music beginning with Beethoven.
Offered every 2 years. 3 credits.

MU 245 Twentieth-Century Music

A comprehensive study and general listener's approach to contemporary music beginning with Impressionism.
Offered every 2 years. 3 credits.

CM/MU 250 Music of the Cinema: Spectacle, Splendor, and Spielberg

LASC—Creative Arts

An introduction to the role, impact, and importance of music in motion pictures from silent movies through contemporary film.
Offered every 2 years. 3 credits.

MU 255 The Golden Era of Piano Music

LASC—Creative Arts

A survey of piano music beginning with Beethoven and continuing through the Romantic tradition to the early twentieth century.
Offered every year. 3 credits.

MU 260 Symphonic Music

LASC—Creative Arts

A survey of symphonic music beginning with the classical period.
Offered every year. 3 credits.

MU 265 The Concerto

LASC—Creative Arts

The concerto from the eighteenth to the twentieth century with emphasis on the development of the piano concerto.
Offered every 2 years. 3 credits.

MU 270 Music in Horror Films

A survey of scores composed for horror films. Emphasis is placed on the role of music in the genre and the composer's interpretation of various components of screenplays, including narrative, characters, and emotional content.
Offered every other year. 3 credits.

MU 281 Music History I

LASC—Creative Arts

A general survey of western art music from the Medieval, Renaissance, and Baroque periods.
Offered every year. 3 credits.

MU 282 Music History II

LASC—Creative Arts

A general survey of western art music from the Classical and Romantic periods, and the twentieth century.
Offered every year. 3 credits.

MU 300 Chorale

Prerequisites: MU 215 or MU 220 and audition

Study and performance of a cappella choral literature from the Middle Ages to contemporary times. May be repeated.
Category 1. 1 credit .

MU 302 Applied Music

Prerequisite: Audition required

Note: Please refer to instrument listing for MU 102
Private instruction in an instrument or voice, one-half hour lesson per week. Studio fee required. May be repeated.
Offered every year. 1 credit.

MU 310 The American Musical in Performance

Study, rehearsal and performance of a great American musical. Music, acting and dance will all be skills which are developed.
Offered every other year. 3 credits.

MU 380 Form and Analysis

Prerequisite: MU 210

An introduction to and analysis of the formal structures of music.
Offered every 3 years. 3 credits.

MU 400 Independent Study in Music

Prerequisite: Consent of instructor

An opportunity for further study in a special field of interest under faculty supervision.
Offered every year. 1-6 credits.

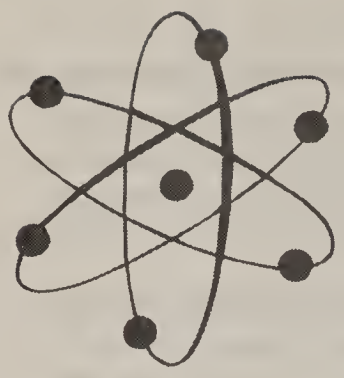
MU 402 Applied Music

Prerequisite: Audition required

Note: Please refer to instrument listing for MU 102
Private instruction in an instrument or voice, one-half hour lesson per week. Studio fee required. May be repeated.
Offered every year. 1 credit.

MU 410 Special Topics in Music

This course will allow members of the music faculty to develop courses of special interest. This would include seminars on specific composers or compositions, in both classroom and applied studio environments.
Offered every 3 years. 3 credits.



Natural Science

Department of Physical and Earth Sciences

Faculty

William A. Belanger, Associate Professor (1967)
B.S., Ed.M., Worcester State College; M.N.S., Worcester Polytechnic Institute

Francisco J. Lamelas, Associate Professor (2005)
B.S., University of Wisconsin, Milwaukee; M.S., University of Wisconsin;
M.S., Ph.D., University of Michigan

Sudha R. Swaminathan, Associate Professor (2005)
A.B., (Physics), A.B., (Mathematics) Mount Holyoke College;
M.S., Ph.D., University of Michigan

The study of natural science affords an opportunity to discover scientific fundamentals as part of a general education. Students can obtain preparation for science teaching, for employment opportunities in other areas where they will benefit from a broad scientific background, and for graduate study.

Requirements for a Major in Natural Science: 41 credits including

Two courses in mathematics, chosen from the following: 6 credits
MA 110 or MA 150 (only one of these may be applied to the major)
MA 190 or any MA course at 200 level or above
(Note: Education students may substitute the MA 130-132 sequence for MA 110 above)

Nine science courses, including six core courses and three electives:
Core science courses: 23 credits

Three one-year sequences chosen from **three** of the following **four** disciplines:
Biology, Chemistry, Earth Science, Physics
The three disciplines are chosen according to a student's career plans, in consultation with an advisor.

The one-year sequences are:
BI 140 Intro. to Organismal Biology
and BI 141 Intro. to Cellular and Molecular Biology (8 credits)
CH 120 and CH 121 General Chemistry I and II (8 credits)
GS 101 and GS 140 Physical Geography and Physical Geology (7 credits)
PY 221 and PY 222 General Physics I and II 8 credits)
or PY 241 and PY 242 Physics I and II

3 additional science electives at the 200 level or above: 9 credits
NS 400 Natural Science Seminar 3 credits

Requirements for a Concentration in Earth Science Education (Middle/Secondary): 54 credits

(For Track I students the 6 credit Quantitative Reasoning and 7 credit Natural Systems and Processes General Education (LASC) requirements are fulfilled, so the effective number of required credits is 41.

For Track II students the 13 credit Natural Science and Mathematics Distribution Requirement is fulfilled so the number of required credits is 41.)
(See Academic Policies and Procedures– General Education Requirements for more information)

Mathematics (12 credits)
- MA 130 Number and Operations for Teachers
- MA-131 Patterns, Functions and Algebra for Teachers
- MA-132 Geometry, Measurement, Probability and Statistics for Teachers
- MA 190 Precalculus or any MA course at 200 level or above

Earth Science (17 credits)
- GS 101 Physical Geography
- GS 110 Meteorology
- GS 140 Physical Geology
- GS 216 Geographic Information Systems I
- GS 225 Oceanography

Physics (11 credits)
- PY 101 Introduction to Astronomy
- PY 221 & 222 General Physics I and II
  or PY 241 & 242 Physics I and II

Biology (4 credits)
- BI 140 Introduction to Organismal Biology

Chemistry (4 credits)
- CH 110 Introduction to General, Organic, and Biochemistry I
  (May substitute CH 120 & 121 General Chemistry I and II)

Additional Required Course (3 credits)
- NS 201 Science and Society

Required for All Natural Science Majors (3 credits)
- NS 400 Natural Science Seminar

Optional Recommended Courses (17 credits)
- BI 202 Principles of Ecology
- GS 220 Earth History
- GS 235 Contemporary Climate Change
- GS 245 Planetary Geology
- GS 250 Hydrology

Additional Optional Courses (8 credits)
- BI 141 Introduction to Cellular and Molecular Biology
- CH 111 Introduction to General, Organic, and Biochemistry II

Requirements for a Concentration in General Science Education (Middle): 58 credits

(For Track I students the 6 credit Quantitative Reasoning and 7 credit Natural Systems and Processes General Education (LASC) requirements are fulfilled, so the effective number of required credits is 45.

Natural Science

For Track II students the 13 credit Natural Science and Mathematics Distribution Requirement is fulfilled so the number of required credits is 45.)
(See Academic Policies and Procedures– General Education Requirements for more information).

Mathematics (12 credits)

MA 130	Number and Operations for Teachers
MA-131	Patterns, Functions and Algebra for Teachers
MA-132	Geometry, Measurement, Probability and Statistics for Teachers
MA 190	Precalculus or any MA course at 200 level or above

Physics (11 credits)

PY 101	Astronomy
PY 221 & 222	General Physics I and II
or PY 241 & 242	Physics I and II

Biology (8 credits)

BI 140	Introduction to Organismal Biology
BI 141	Introduction to Cellular and Molecular Biology

Chemistry (8 credits)

CH 110 & 111	Introduction to General, Organic, and Biochemistry I and II
or CH 120 & 121	General Chemistry I and II

Earth Science (7 Credits)

GS 101	Physical Geography
GS 140	Physical Geology

Additional Required Courses (9 credits)

NS 201	Science and Society
GS 110	Meteorology
One elective (BI, CH, GS, or PY) at 200 level or above	

Required for All Natural Science Majors (3 credits)

NS 400	Natural Science Seminar

Optional Recommended Course (4 credits)

NS 120	Integrated Science I

Requirements for a Major in Natural Science and to meet the prerequisites for the Accelerated Pharmacy Program with Massachusetts College of Pharmacy and Health Science (MCPHS) *(Please see program description on page 56)*

MCPHS prerequisites require completing the Natural Science degree with Chemistry as the primary science, Biology as the secondary science and Physics as the tertiary science and taking the following courses (which may be used to meet Natural Science degree requirements):

CH 120	General Chemistry I
CH 121	General Chemistry II
BI 140	Introduction to Organismal Biology
BI 141	Introduction to Cellular and Molecular Biology
MA 150	Statistics I
CH 201/203	Organic Chemistry I with Laboratory
CH 202/204	Organic Chemistry II with Laboratory
MA 200	Calculus
MA 201	Calculus II
PY 221	General Physics I
PY 222	General Physics II
BI 204	Microbiology
NS 400	Natural Science Seminar

Natural Science Courses

For information on the Liberal Arts and Sciences Curriculum (LASC), see page 36

NS 101 Physical Science I

Survey of physics and chemistry; evolution of concepts and theories: measurement, gravitation, energy, conservation laws, kinetic molecular theory, wave motion. Three lecture hours and two laboratory hours per week.
Offered every year. 4 credits.

NS 102 Physical Science II

Prerequisite: NS 101

Light, electricity, magnetism, fundamentals of chemistry, atoms and molecules, the structure of atoms, quantum theory, and relativity. Three lecture hours and two laboratory hours per week.
Offered every year. 4 credits.

NS 120 Integrated Natural Science I

Introduction to the scientific method, physical, biological and earth science related to evolution/genetics and energy. Three lecture hours and three laboratory hours per week.
Offered every year. 4 credits.

NS 121 Integrated Natural Science II

Continuation of NS 120. Covers the chemistry, biology and physics related to environment. Three lecture hours and three laboratory hours per week.
Offered every year. 4 credits.

NS 193 Special Topics in Natural Science for First-year Students

All "193" classes are approved for LASC but may vary by section. See current course listing for specific LASC area approval.

Introductory level course covering topics of special interest to first-year students. Offered only as a First-year Seminar.
Offered every year. 3 credits.

NS 199 Special Topics in Natural Science

Prerequisite: Consent of instructor

Lecture or laboratory course in selected areas of natural science presented by departmental instructor. Topics will be announced in advance.
3-4 credits.

NS 201 Science and Society

Science examined in an historical and social context; the impact of science on man's interpretation of the natural world. For non-science majors.
Offered every year. 3 credits.

NS 400 Natural Science Seminar

Prerequisite: Consent of department

Contemporary developments in the natural sciences; technical literature, independent projects or studies, and the preparation and presentation of technical papers.
Offered every year. 3 credits.

NS 410 Independent Study in Natural Science

Prerequisite: Consent of department

Opportunity for advanced students to pursue a topic of special interest involving extensive reading, experimentation, and research.
Offered every year. 1-6 credits.

NS 412 Special Topics in Natural Science

Prerequisite: Consent of department

Intended for the undergraduate who wishes to undertake study of selected topics in Natural Science of mutual interest to student and faculty.
1-6 credits.

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Nursing
Department of Nursing

Faculty

Susan Alix, Instructor (2006)
R.N., St. Vincent Hospital School of Nursing; B.S., Worcester State College;
M.S, University of Massachusetts, Worcester

Kathryn R. Baldor, Instructor (2002)
B.S., University of Vermont; M.A., Assumption College;
M.S., University of Massachusetts, Amherst

Maryellen Brisbois, Instructor (2007)
B.S., Assumption College; M.S.N., Worcester State College

Cynthia Callahan-Stewart, Instructor/RN-to-BS Coordinator (2006)
A.S., Quinsigamond Community College; B.S., Anna Maria College;
M.S., Worcester State College

Stephanie Chalupka, Graduate Coordinator (2008)
A.A., Quinsigamond Community College; B.S., Worcester State College;
M.S., Boston College; Ed.D., University of Massachusetts, Amherst

Barbara Ann Giguere, Professor (1980)
R.N., Worcester City Hospital School of Nursing; B.S., Worcester State College;
M.S., University of Connecticut; Ed.D., University of Massachusetts

Suzanne Kiniry, Instructor (2009)
B.S., Georgetown University; M.S., State University of New York

Robyn Leo, Associate Professor (1995)
R.N., Framingham Union Hospital; B.S., Worcester State College;
M.S.N., University of Connecticut

Ellen Rearick, Instructor (2006)
A.S., Quinsigamond Community College; B.S., University of Massachusetts, Amherst;
M.S., University of Massachusetts, Worcester

Joan Reidy, Lab Coordinator (2008)
B.S.N., Boston University; M.P.H., Boston University

Annmarie D. Samar, Associate Professor (1997)
R.N., Quincy City Hospital; B.S., Worcester State College;
M.S., University of Rhode Island; Ph.D., University of Massachusetts

Andrea Wallen, Professor (2006), Department Chair
B.S., San Francisco State University; M.S. University of California;
Ed.D., University of Massachusetts

Accreditation

- Full approval status from the Commonwealth of Massachusetts Board of Registration in Nursing located at 239 Causeway St. Boston, MA 02114
- Accredited by the Commission on Collegiate Nursing Education (CCNE). One Dupont Circle, NW, Suite 530, Washington, DC 20036
- Member of the Massachusetts Association of Colleges of Nursing (MACN).

General Information

Admissions

The nursing program leads to a Bachelor of Science degree.

The program offers two tracks in the undergraduate major in nursing: **Track One** is for the student who is seeking initial baccalaureate education in the nursing profession and **Track Two** is for the student who has obtained licensure as a registered nurse graduated from an Associate Degree or Diploma Accredited Program and is pursuing a baccalaureate degree.

Undergraduate Program Outcomes

The Department of Nursing prepares individuals for the roles and responsibilities of professional nursing through an undergraduate program leading to the Bachelor of Science degree.

The program outcomes of the undergraduate program are as follows:

1. Provide comprehensive, holistic care that is grounded in the biological sciences, the arts and humanities.
2. Demonstrate an understanding of a variety of organizational structures, missions, visions, philosophies and values.
3. Utilize current theoretical, scientific and research knowledge toward evidence based professional practice.
4. Demonstrate competence in utilizing information technology resources to advance professional practice
5. Comply with the Standards of Professional Nursing Practice.
6. Implement effective inter-professional communication when working with the health care team.
7. Implement evidence based practice to guide the nursing process toward culturally sensitive, individual and population focused care.
8. Apply the professional standards of moral, ethical and legal conduct to practice.
9. Demonstrate clinical competency, accountability and ethical decision making as an entry level, novice professional nurse.

The nursing department has policies which are found in the Department of Nursing Undergraduate Student Policy Handbooks. These policies include, but are not limited to, the following: progression and retention, classroom and clinical behavior, academic honesty and professional dress in clinical. The department reserves the right to modify policies and the curriculum during the students' enrollment. Sufficient notice of any change will be provided to students.

Progression in the program requires successful completion of all pre and corequisite courses, sequential nursing courses and all clinical placements offered in each course.

Good Moral Character Required for Licensure

In compliance with policy of the Massachusetts State Board of Nursing, all applicants/ students are informed that completion of the BS degree does not guarantee admittance to the registered nurse licensure examination. According to Board Licensure Policy 00-01, any individual convicted of a felony or misdemeanor conviction, and/or who has been disciplined by a licensure/certification body must be evaluated by the Board to determine a licensure applicant's compliance with the "good moral character" licensure requirement established at Massachusetts General Laws, Chapter 112 , section 74 and 74A. Any individual who has been convicted of a felony or misdemeanor conviction, and/or who has been disciplined by a licensure/certification body, or whose ability to practice professional nursing is adversely affected by a physical or mental disability/illness that may endanger the health and/or safety of a person, should seek special advising prior to enrolling in any professional nursing program in Massachusetts. Individuals convicted of certain criminal convictions are permanently excluded from nurse licensure in Massachusetts.

All students in the nursing program will be required to have periodic CORI (Criminal Offender Record Information) checks requested by the department and/or clinical agencies. This background check is a computerized search to determine if an individual has any convictions, outstanding warrants or pending complaints. The information from these records is confidential and is destroyed when a student graduates. Progression and mandatory clinical placements in the nursing program are contingent on a "no report" CORI check result. Clinical agencies may independently perform CORI checks on students and do not have to accept a student with a CORI report indicating that an offense exists. The department is not responsible for alternate clinical placements for students who cannot be placed in an agency related to a CORI offense report. Students have an obligation to inform the department chairperson if any legal issues arise, while in the program, that are reportable on a CORI.

Health Care Agency Requirements: Health, Drug Screening and Other

Nursing students will be placed in a variety of health care settings. Each agency has requirements which the student must fulfill before they are allowed placement. This list may include but is not limited to the following; physical exam, immunizations, agency specific orientation, CORI, SORI and drug screening. Progression and mandatory clinical placements in the nursing program are contingent on meeting all agency requirements and negative drug reports. If a student is denied placement by the agency for any reason, including a positive drug report, the nursing department is not responsible for providing alternate clinical placements.

Track One (Undergraduate)

Track One Courses

Prerequisite courses to be successfully completed by the end of spring semester first year:

*	BI	161 & BI 162	Human Anatomy and Physiology I and II
*	CH	112	Survey of Chemistry
*	EN	101 & EN 102	English Composition I and II
	PS	101	General Psychology
	SO	100	Introduction to Sociology

Corequisite courses to be successfully completed by the end of spring semester sophomore year:

* BI	204	Microbiology
PS	210	Child Growth & Development
HE	120	Health and Nutrition
MA	150	Statistics

Corequisite course to be satisfactorily completed by the end of the fall semester junior year.

CS	124	Health Informatics

– *Students must achieve a grade of 2.0 in each of these courses. Each course may be repeated only ONCE to obtain minimum required grade. A student not meeting the minimum grade requirement will not be considered for transfer acceptance into or allowed continued progression in the nursing program.

A student who fails to complete any prerequisite and/or corequisite course on time will remain as a nursing major; however, progression in the nursing program will depend on satisfactory completion of these courses and space availability.

Required Nursing Courses: 60 credits – All Nursing courses must be taken in sequence.

NU	200	Introduction to Professional Nursing I	5 credits
NU	205	Pathophysiology	3 credits
NU	210	Introduction to Professional Nursing II	4 credits
NU	215	Pharmacology	3 credits
NU	310	Nursing Science I	9 credits
NU	315	Group Communication Seminar I	1 credit
NU	340	Nursing Science II	9 credits
NU	415	Group Communication Seminar II	2 credits
NU	430	Research Seminar	3 credits
NU	440	Nursing Science III	8 credits
NU	450	Leadership in Nursing	3 credits
NU	460	Nursing Science IV	8 credits
NU	470	Capstone	2 credits

Students must achieve a minimum grade of 80 in each nursing course and each section of the course when a course has two distinct class/clinical experiences (NU 310, NU 340, NU 440). A nursing course may be repeated only once to obtain a passing grade. This option can be used only one time in the nursing program. Readmission into the nursing course after a withdrawal/failure is assessed on an individual basis. The Department of Nursing has additional policies and procedures which are binding for nursing majors. Included in these policies are standards for progression in the nursing major. They are found in the *Nursing Department's Student Handbook*.

Foundation courses, nursing courses, prerequisite and corequisite courses may not be taken pass/fail.

Transfer Students: Students taking general education courses in another college or university are required to contact the Worcester State Admissions Office regarding matriculation and the transfer of credit. External transfers are admitted into the first-year class.

All transfer student applicants for Track One who have previously been enrolled in a nursing program in another college/university must submit, as part of their application, a letter from the dean or director of the nursing program indicating that they left in good standing and were eligible for readmission to that program.

Worcester State students can apply for transfer into sophomore year courses. Selection of students will be by space availability, availability of faculty/clinical agencies, and on evaluation of the applicant's grades. All transfer students will be held to the same requirements and standards as those students admitted directly into Worcester State as a first-year Nursing major. In addition, transfer students may be required to interview with a nursing faculty member, provide a writing sample, and take a math quiz as part of the admission process.

Transfer students may only apply two (2) times for admission into the nursing major.

Track Two (RN-to-BS Program)

Admission Process

The RN-to-BS student applying to Worcester State as a transfer student can receive up to 65 credits transferable from an accredited associate degree college and a maximum of 90 credits from four year colleges or universities. Worcester State has articulation agreements with many area colleges for transfer credits (up to 23 credits may be approved toward nursing transfer credits).

The RN student, who graduated from a nursing diploma program, must take the NLN Mobility Profile II Mobility Exam as a prerequisite, which allows students to obtain up to 23 nursing transfer credits. All RN students must hold a current license to practice nursing in the Commonwealth of Massachusetts.

The three semester nursing sequence begins in January of 2011. All applicants must complete the required components of the admission process prior to November 15, 2010 for consideration of admittance for the January of 2011 semester. Beginning year 2012, the three semester nursing sequence will start every September instead of every January. All applicants must complete the required components of the admission process prior to May 1 for consideration of admittance for September. Students who wish to matriculate into the program and begin taking prerequisites or corequisites early may be admitted throughout the year on a rolling basis as an early admission by completing the application process.

Students interested in applying to the program are advised to contact the RN-to-BS Coordinator, at 508 929-8960 well in advance of their anticipated start date to schedule an interview and complete a Nursing Department Application. If after the interview, the prospective student is interested in officially applying to Worcester State then he/she must complete a Worcester State Admission Application (following Worcester State deadlines).

Track Two Prerequisite Courses

These courses may be transferred if the student has previously taken the course (per college transfer policy) or may be taken at Worcester State. Foundation courses, nursing courses, prerequisite and corequisite courses may not be taken pass/fail.

• EN 101 & EN 102	English Composition 1 & II (*EN 101 may be waived)
• MA 150	Introduction to Statistics (*pre requisite for NU 430-A: Research Seminar OR NU 925: Research Utilization) (An *Accuplacer* math test may be required by Worcester State prior to registering for classes)
• SO 100	Introduction to Sociology
• PS 110	General Psychology
• PS 210	Child Growth & Development or Human Growth & Development
PSY121	Survey to Life Span
• BI 161 & 162	Anatomy & Physiology I & II
• BI 204	Microbiology

Track Two Nursing Courses: (27 Worcester State Nursing Credits)

All nursing courses must be taken in sequence. Students must achieve a minimum grade of 80 in each nursing course. Only one nursing course may be repeated to obtain the minimum grade or required GPA and must be repeated within the 2 years.

Semester One

- NU 124 Health Infomatics (pre or co-req)
- NU 332 Transition to Professional Nursing (2 credits)
- NU 342 Health Assessment (3 credits)

Semester Two

- NU 430-A Research Seminar (3 credits)

OR

NU 525* Nursing Research in Advanced Practice *(3 credits)
RN-to-MS Fast Track Program Please see below*

- NU 432 Advancing Nursing Perspectives in Chronic Illness (8 credits)

Semester Three

- NU 452 Professional Nursing Leadership in Organizations (3 credits)

OR

NU 551* *Nursing Leadership and Administration (3 credits)
RN-to-MS Fast Track Program Please see below*

- NU 472 Community Nursing Capstone Course (8 credits)

RN-to-MS Fast-Track Program*

The RN-to-MS Fast Track Program allows 6 graduate credits (500 Level) taken while completing the senior year to count toward both the Bachelor of Science and the Master of Science in Nursing degrees only when the RN meets the criteria for the Fast Track program, completes an application for admission to the RN-to-MS Fast Track Program to the Graduate Nursing Program through the Graduate School. The RN-to-MA Fast Track application process must be completed in the first semester of the RN-to-BS Program.

The GRE is waived for students who enter the Master of Science in Nursing program through the RN-to-MS Fast Track Program. Only course grades of B- or above can be counted toward the Master of Science in Nursing degree.

Fast track students must take courses in the M.S. program the semester after completing the B.S. degree. Otherwise 500 Level courses taken in the senior year will count only towards the RN-to-BS degree unless they are in excess of the credits required for the B.S. degree.

Clinical Course Requirements for both Track One and Track Two:

Prior to registering for a clinical practicum course, students must submit written verification of:

1. Complete physical examination — updated annually — form available from Nursing Department Secretary (508-929-8129),
2. A tuberculosis skin test is required yearly and can be obtained through the Worcester State Student Health Service — follow up x-rays may be required,
3. Rubella and Varicella titre level,
4. Two (2) MMR (measles [rubeola], mumps and rubella) vaccines, or one (1) vaccine and titre levels for mumps and rubeola,
5. One dose of tetanus-diptheria vaccine administered within 10 years,
6. Series of three vaccinations for Hepatitis B and titre level,

7. Professional provider Basic Cardiac Life Support (BCLS) (Adult and Child) certification must be maintained throughout the program,
8. Professional liability insurance with a 1-3 million dollar limit renewed annually provided by Worcester State,
9. CORI, SORI and/or agency required drug screening may be requested,
10. Track Two RN-BS students must submit a photocopy of current RN license to practice nursing in the Commonwealth of Massachusetts.

Student and Nurse Organizations: Worcester State maintains a local chapter of the National Student Nurses' Association which is primarily a student led organization that is actively involved in community outreach. Meetings are held in the department and are open to all nursing students interested in attending and participating.

Iota Phi Chapter-at-Large, Sigma Theta Tau International, the International Honor Society for Nurses provides leadership and scholarship in practice, education and research to enhance the health of all people. Since 1986, students have been selected for membership into the local chapter of the Iota Phi Chapter-at-Large based on academic and personal criteria.

Requirements for Graduation: For the Bachelor of Science Degree with a major in Nursing students must have:

- Completed each nursing course (and each component) with a minimum grade of 80
- Completed all Nursing Department and Worcester State requirements

Nursing Courses: Track I and II

For information on the Liberal Arts and Sciences Curriculum (LASC), see page 36

(Open only to students who have been accepted into the undergraduate nursing major)

TRACK I (Undergraduate)

NU 200 Introduction to Professional Nursing I

Prerequisites: BI 161, BI 162; CH 112; EN 101, EN 102; PS 101; SO 100
Corequisites: BI 204, PS 210, NU 205

Philosophy and conceptual framework of the program is introduced. Nursing theory, history and professional practice roles are presented. Medical terminology is introduced as well as introduction to medication calculations.
Offered Fall semester every year. 5 credits.

NU 205 Pathophysiology

Prerequisites: BI 161, BI 162; CH 112; EN 101, EN 102; PS 101; SO 100
Corequisites: BI 204, PS 210, NU 200

Students will develop beginning principles in providing nursing care for individuals with altered pathophysiological responses
Offered Fall semester every year. 3 credits.

NU 210 Introduction to Professional Nursing II

Prerequisite: NU 200, NU 205
Corequisites: HE 120, NU 215, CS 124 or NU 430, MA 150

Health of individuals and families is assessed. Communication, physical assessment, nursing process and other skills for professional practice are introduced. Medication calculations continue and the administration of medication is introduced. Lecture, an on-campus laboratory on physical assessment and off-campus clinical experiences in sub-acute care agencies are included in this course.
Offered Spring semester every year. 4 credits.

NU 215 Pharmacology

Prerequisite: NU 200, NU 205
Corequisites: HE 120, NU 210, CS 124 or NU 430, MA 150

Students will learn underlying principles of safe and competent medication administration.
Offered Spring semester every year. 3 credits.

NU 310 Nursing Science I

Prerequisites: NU 210, NU 215; HE 120, CS 124 or NU 430, MA 150
Corequisite: CS 124 or NU 430

Students will apply the nursing process when caring for the childbearing family and adult medical-surgical patients. Concepts of wellness, disease and health behaviors will be examined as the nursing process is operationalized in the care of adult medical-surgical patients and the childbearing family. Lecture and off-campus clinical experiences in maternal-child health nursing and medical-surgical nursing are included in this course.
Offered Fall semester every year. 9 credits.

NU 315 Group Communication Seminar I

Prerequisite: NU 310, NU 430
Corequisite: NU 340

The focus of this course is on effectively assessing, analyzing and problem solving the processes of group interactions with peers in the classroom in order to integrate this information into various health care settings.
Offered Spring semester every year. 1 credit.

NU 340 Nursing Science II

Prerequisites: NU 310, NU 430

Corequisite: NU 315

Concepts of wellness, disease, and health behaviors are examined as the nursing process is operationalized in the care of pediatric patients and acutely ill medical-surgical patients. Lecture and an off-site clinical experience are included in this course.
Offered Spring semester every year. 9 credits.

NU 415 Group Communication Seminar II

Prerequisites: NU 315 and NU 340
Corequisite: NU 440

The independent and interdependent role of the professional nurse as an agent of change is examined.
Offered Fall semester every year. 2 credits.

NU 430 Research Seminar in Nursing

Prerequisite: MA 150

Corequisites: NU 210 or NU 310

The focus is on the development of the student as a consumer of nursing research and the utilization of research findings in practice.

Offered Fall semester every year. 3 credits.

NU 440 Nursing Science III

Prerequisites: NU 315 and NU 340

Corequisite: NU 415

Students practice professional nursing with acutely ill adults in mental health care settings and identify multiple aspects of community and public health issues. Critical thinking and decision making skills are developed and applied. Lecture and off-campus clinical experiences are included in this course.
Offered Fall semester every year. 8 credits.

NU 450 Leadership in Nursing

Prerequisites: NU 415, NU 440

Corequisites: NU 460, NU 470

This course focuses on theories of leadership, management, delegation and supervision, which supports the knowledge, skill and values integrated by the nurse into professional leadership behavior. Current trends in nursing and in research relating to nursing leadership and management are explored.
Offered Spring semester every year. 3 credits.

NU 460 Nursing Science IV

Prerequisite: NU 415, NU 440

Corequisites: NU 450, NU 470

The focus is on theories of leadership management, change, and communication which support development of professional nursing. Complex health problems are studied in classrooms and clinical settings. Preceptorship opportunities are available to eligible students.
Offered Spring semester every year. 8 credits.

NU 470 Nursing: Capstone

Prerequisites: NU 415, NU 440

Corequisites: NU 450, NU 460

This two (2) credit course focuses on Evidence Based Practice in which students will demonstrate the integration and synthesis of all previous learning in the nursing major.
Offered Spring semester every year. 2 credits.

NU 480 Independent Study

Prerequisite: Consent of Department

Opportunities for students to engage in special studies in nursing according to individual interests and faculty availability.
Offered every year. 1-6 credits.

TRACK II (RN-TO-BS)

NU 332 Transition to Professional Nursing

This course focuses on nursing knowledge and theory as foundations of professional nursing. The elements of the Department of Nursing's conceptual nursing practice model are analyzed and examined in terms of nursing, diagnostic, and teaching-learning processes. Legal, ethical and environmental factors are studied in relation to their impact on person/environment unity. The format is a weekly 2 two hour lecture/seminar.
(2 credits)

NU 342 Health Assessment

The nursing process is used as the organizing framework to identify person/environment unity of individuals. A variety of skills and theories relevant to professional nursing practice are utilized. The student will develop an increased knowledge base and skills related to performing a complete physical examination of the adult and pediatric client. The format is a weekly 3 hour on campus lab/lecture.
(3 credits)

NU 432 Advancing Nursing Perspectives in Chronic Illness

The focus of this course is on the study and practice of nursing directed at heath promotion/prevention/ restoration of clients with chronic person/environment disunity. Theories and environmental factors that influence health promotion, prevention and restoration of particular client populations are examined. The nursing practice model is further applied to maximize person/environmental unity of clients with chronic alterations in functional patterns. Clinically, students collaborate with preceptor and faculty to integrate chronic illness and leadership theory into clinical practice. The format is a 4 hour lecture/seminar, 1 hour online component and weekly clinical assignments.

(8 credits)

NU 472 Community Nursing Capstone Course

The focus of this course is on the study and practice of community-oriented nursing. Theories and environmental factors which influence the health of communities are analyzed. The application of the nursing process and diagnostic reasoning in promoting the health of individuals, families and communities is emphasized. Clinically students collaborate with preceptor and faculty to integrate community/public health nursing theory into practice. The format is a 4 hour lecture/seminar, 1 hour online component and weekly clinical assignments.
(8 credits)

NU 525 Nursing Research in Advanced Practice

Students build upon previous learning of research design, methods and process. The critical relationship of research to nursing as a science, as well as its development as a professional discipline is emphasized.
(3 credits)

NU 551 Nursing Leadership and Administration

Provides the student with necessary skills to integrate appropriate business, economic, financial, leadership and management concepts into effective strategies to effect change in community/public health agencies and healthcare organizations.
(3 credits)

Occupational Therapy

Department of Occupational Therapy

Faculty

Andrea R. Bilics, Professor (1998)
B.S., University of Pennsylvania; M.Ed., Boston College; Ph.D., Boston College

Jacqueline R. Brennan, Assistant Professor (1987)
B.S., University of Connecticut; M.A. Assumption College; M.S., Boston University

Patricia A. Donovan, Assistant Professor (2000)
B.S., Framingham State College; M.S., Boston University; Ed.D., Argosy University

Joanne Gallagher, Associate Professor (1996), Department Chair
B.S., Quinnipiac College; M.S., Florida International University; Ed.D., Johnson & Wales University

Patricia C. George, Academic Fieldwork Coordinator (1998)
B.S., M.S., Worcester State College

Margaret D. Hart, Associate Professor (1997)
B.A., Ithaca College; M.S., Boston University; Ph.D., University of Massachusetts, Boston

Catherine McNeil, Assistant Professor (1985)
B.A., University of California at Berkeley; M.S., Columbia University

Bachelor of Science Occupational Studies Program

The Bachelor of Science in Occupational Studies program offers a stimulating and challenging curriculum that blends professional coursework with a traditional liberal arts education. Students begin by learning the philosophy and founding principles of occupational therapy along with acquiring a thorough understanding of biological, psychological, and social aspects of human beings. In upper division coursework, students learn to apply this knowledge and to develop occupational therapy clinical reasoning skills for evaluation of and intervention with persons across the lifespan. Between the junior and senior years, students with good academic standing are eligible to apply for admittance to

the Occupational Therapy Master's Degree Program in Occupational Therapy Program. Acceptance and completion of the undergraduate program in occupational studies does not guarantee admission into the Master of Occupational Therapy. Only graduates of the Master of Occupational Program are eligible to sit for the national examination administered by National Board for Certification of Occupational Therapy. A passing score on this examination allows the graduate to apply for a license to practice that is required by most states within the United States, including Massachusetts. For further information regarding certification contact: NBCOT; 800 Frederick Avenue, Suite 200, Gaithersburg, Maryland, 20877-4150; (301) 990-7979; www.nbcot.org.

The combined Bachelor of Science in Occupational Studies and Master of Occupational Therapy Program is accredited by the Accreditation Council for Occupational Therapy Education. For further information regarding accreditation contact: ACOTE; 4720 Montgomery Lane, P.O. Box 31220, Bethesda, Maryland, 20824-1220; (301) 652-2682; www.acote.org.

Program Application Process

Application to enter the BSOS Program as a first-year student or external transfer student is made through the Admissions Office at the time of application to Worcester State. Students are encouraged to apply early due to limited enrollment. Current Worcester State students (internal transfers) who wish to apply for internal transfer into the BSOS Program must submit an application directly to the Occupational Therapy Department by February 1, 2010.

First-year students are admitted on the basis of SAT scores, high school rank, and coursework relevant to the major. External and internal transfer students are considered for admission based on minimum qualifications (overall grade-point-average of a 2.75 and grades of C or better in all prerequisite courses, Anatomy and Physiology I & II, General Psychology) and space availability.

All accepted transfer students are required to complete OT 101 and OT 102 during the summer before progressing onto sophomore level courses in the fall semester.

Any individual who has been convicted of a felony or misdemeanor involving an act likely to affect professional practice should meet with the Department Chair prior to applying to the program. Prior incidents may affect eligibility of fieldwork, certification, and employment. A CORI check and/or drug test is typically required prior to Fieldwork Level I and Level II placement.

Policies

- All undergraduate occupational therapy prerequisite and major courses must be completed with a grade of C or better.
- Courses must be taken in the prescribed sequence unless an exception is granted by the Department Chair.
- All undergraduate and graduate level coursework must be successfully completed before beginning Level II Fieldwork.
- The second level II fieldwork experience must be completed within 12 months of academic coursework.
- Eligibility to sit for the national certification examination requires successful completion of six-months of Level II Fieldwork.

Requirements for the Major

The following courses are required:

OT Prerequisite Courses for the BSOS (27-28 credits)

BI 161	Anatomy & Physiology I (4 credits)
BI 162	Anatomy & Physiology II (4 credits)
BI 271	Kinesiology (3 credits)
BI 315	Neuroscience (4 credits)
PS 101	General Psychology I (3 credits)
PS 210	Child Growth and Development (3 credits)
PS 220	Psych of Aging (3 credits)
MA 150	Statistics I ***or*** PS 275 Psychological Statistics (3 credits)

OT Major Courses for the BSOS (49 credits)

OT 101	Introduction to Occupational Studies of Wellness/Disability (3 credits)
OT 102	Occupational Studies of Wellness/Disability Groups (3 credits)
OT 203	Occupational Therapy Theories (3 credits)
OT 211	Kinesiology Lab (1 credit)
OT 301	Psychosocial Wellness/Disability (2 credits)
OT 302	Psychosocial Therapeutic Approaches (2 credits)
OT 304	Psychosocial Therapeutic Approaches Lab (2 credits)
OT 312	Physiological Wellness/Disability (2 credits)
OT 313	Physiological Therapeutic Approaches (2 credits)
OT 317	Research I (3 credits)
OT 318	Physiological Therapeutic Approaches Lab (2 credits)
OT 401	Occupational Performance & Context for Elders (2 credits)
OT 402	Therapeutic Approaches for Elders (2 credits)
OT 403	Therapeutic Approaches Lab for Elders (2 credits)
OT 404	Assistive Technology I (3 credits)
OT 407	Research II (3 credits)
OT 421	Occupational Performance & Context for Children/Adolescents (2 credits)
OT 423	Therapeutic Approaches Lab for Children/Adolescents (2 credits)
OT 424	Assistive Technology II (3 credits)
OT 426	Organizational and Professional Issues I (3 credits)
OT 427	Therapeutic Approaches for Children/Adolescents (2 credits)

OT Major Courses for the MOT (33 credits)

OT 903	Clinical Reasoning I (3 credits)
OT 905	Clinical Reasoning II (3 credits)
OT 906	Global Health Issues (3 credits)
OT 908	Community Health (3 credits)
OT 928	Thesis Seminar I (3 credits)
OT 929	Thesis Seminar II (3 credits)
OT 930	Thesis Seminar III (3 credits)
OT 931	Organizational and Professional Issues II (3 credits)
OT 920	Physical Disabilities Fieldwork II (3 credits)
OT 921	Psychosocial Fieldwork II (3 credits)
OT 933	Assessment and Evaluation Across the Lifespan (3 credits)

Occupational Therapy Courses

For information on the Liberal Arts and Sciences Curriculum (LASC), see page 36

OT 101 Introduction to Occupational Studies of Wellness/Disability

Introduction to occupational therapy history, philosophy, wellness/disability continuum, contexts, occupations, occupational performance, professionalization and clinical reasoning.
Offered every year. 3 credits

OT 102 Occupational Studies of Wellness/Disability Groups

Exploration of professional themes: philosophy, wellness/disability continuum using groups, occupational performance and activity, professionalization and clinical reasoning.
Offered every year. 3 credits

OT 193 Special Topics in Occupational Therapy for First-year Students

All "193" classes are approved for LASC but may vary by section. See current course listing for specific LASC area approval.

Introductory level course covering topics of special interest to first-year students. Offered only as a First-year Seminar.
Offered every year. 3 credits.

OT 203 Occupational Therapy Theories

Investigation of theories basic to occupational therapy, related to occupation, individual and context. Includes current and developing models of practice.
Offered every year. 3 credits

OT 211 Kinesiology Lab

Concurrent with BI 271

Opportunities to develop skills that apply kinesiology to occupational therapy practice.
Offered every year. 1 credit

OT 301 Psychosocial Wellness/Disability

Concurrent with OT 302 and OT 304

Historical themes of the profession, wellness/illness/disability continuum, occupation and context as it applies to psychosocial performance in life roles.
Offered every year. 2 credits

OT 302 Psychosocial Therapeutic Approaches

Occupational performance and context, professionalization, and clinical reasoning will be applied to practice models when addressing psychosocial health and illness.
Offered every year. 2 credits

OT 304 Psychosocial Therapeutic Approaches Lab

Directed observation and participation in the clinical application of theories and methods of occupational therapy intervention with psychosocial disorders. Includes Fieldwork I.
Offered every year. 2 credits

OT 312 Physiological Wellness/ Disability

Concurrent with OT 313 and OT 318

Historical themes of the profession, wellness/illness/disability continuum, occupation and context as it applies to physiological performance in life roles.
Offered every year. 2 credits

OT 313 Physiological Therapeutic Approaches

Occupational performance and context, professionalization, and clinical reasoning will be applied to practice models when addressing physiological health and illness.
Offered every year. 2 credits

OT 317 Research I

Prerequisite: MA 150 or PS 275

Course examines measurement issues, concerns and tools; and why and how to use evidence in practice.
Offered every year. 3 credits

OT 318 Physiological Therapeutic Approaches Lab

Directed observation and participation in the clinical application of theories and methods of occupational therapy intervention with physiological disorders. Includes Fieldwork I.
Offered every year. 2 credits

OT 400 Special Topics

Selected areas of interest to students and instructor. Topic, prerequisites and instructor are announced in advance.
Offered every year. 1-3 credits

OT 401 Occupational Performance & Context for Elders

Concurrent with OT 402, OT 403 and OT 404

The wellness/illness/disability continuum will be applied to occupational performance in life roles for the geriatric population.
Offered every year. 2 credits

OT 402 Therapeutic Approaches for Elders

Occupational therapy strategies for elders across the wellness/illness/disability continuum with emphasis on occupational performance/context and clinical reasoning.
Offered every year. 2 credits

OT 403 Therapeutic Approaches Lab for Elders

Experiential learning with assessments and intervention approaches for elders. Includes Fieldwork 1 experience in various sites off campus.
Offered every year. 2 credits

OT 404 Assistive Technology I

Assistive technology related to the needs of the adult and geriatric populations will be explored
Offered every year. 3 credits

OT 407 Research II

Course examines research design, quantitative and qualitative, human subject protection and program evaluation. Students will develop a research proposal.
Offered every year. 3 credits

OT 411 Occupational Therapy International Service Learning Experience

Instruction in occupational. therapy methods with an experiential component providing intervention to an underserved population in a foreign country.
Offered every year. 2 credits.

OT 421 Occupational Performance & Context for Children/Adolescents

Concurrent with OT 423, OT 424 and OT 427

Wellness/illness/disability continuum will be applied to performance in life roles related to the child and adolescent populations.
Offered every year. 2 credits

OT 423 Therapeutic Approaches Lab for Children/Adolescents

Experiential learning with assessments and intervention approaches; professional oral and written communication skill development. Includes Fieldwork I experience.
Offered every year. 2 credits

OT 424 Assistive Technology II

Assistive technology applied to the occupational performance and context of child and adolescent populations.
Offered every year. 3 credits

OT 426 Organizational & Professional Issues I

Introduction to principles of organization, administration and management applied to the delivery of occupational therapy services in various practice settings. Work relationships, ethical issues and laws influencing practice will also be discussed.
Offered every year. 3 credits

OT 427 Therapeutic Approaches for Children/Adolescents

Occupational therapy strategies for child and adolescent populations across wellness/illness/disability continuum with emphasis on occupational performance and context.
Offered every year. 2 credits

OT 903 Clinical Reasoning I

Seminar to apply clinical reasoning skills to case studies integrating all aspects that influence therapeutic decision-making, including, occupational performance areas, components, and contexts.
Offered every year. 3 credits.

OT 905 Clinical Reasoning II

Continuing seminar to apply clinical reasoning skills to case studies integrating all aspects that influence therapeutic decision-making, including occupational performance areas, components, and contexts.
Offered every year. 3 credits.

OT 906 Global Health Issues

Understanding health issues from a global perspective of the economic, political, social, and cultural forces, which impact on health and health services.
Offered every year. 3 credits.

OT 908 Community Health

Community as a context for human functioning and occupational therapy intervention. Includes community placement.
Offered every year. 3 credits.

OT 920 Physical Disabilities Fieldwork II

Twelve weeks of full-time (or equivalent part-time) fieldwork in approved physical disabilities setting with supervision that meets ACOTE Standards.
Offered every year. 3 credits.

OT 921 Psychosocial Fieldwork II

Twelve weeks of full-time (or equivalent part-time) fieldwork in approved psychosocial setting with supervision that meets ACOTE Standards.
Offered every year. 3 credits.

OT 928 Thesis Seminar I

Seminar focusing on the development of thesis proposals.
Offered every year. 3 credits.

OT 929 Thesis Seminar II

Seminar focusing on the collection and analysis of data.
Offered every year. 3 credits.

OT 930 Thesis Seminar III

Seminar focusing on writing and disseminating a research report
Offered every year. 3 credits.

OT 931 Organizational & Professional Issues II

An advanced seminar exploring issues relevant to the changing roles and responsibilities of practitioners and to the rapidly evolving practice contexts.
Offered every year. 3 credits.

OT 932 Specialty Fieldwork II

Twelve weeks of full-time (or equivalent part-time) fieldwork in an approved specialty setting with supervision that meets ACOTE Standards.
Offered every year. 3 credits.

OT 933 Assessment and Evaluation Across the Lifespan

This course provides an overview of the occupational therapy and evaluation process. Selection, interpretation and documentation of assessments will be examined.
Offered every year. 3 credits.

Philosophy
Department of Philosophy

Faculty

Courtney D. Schlosser, Professor (1971)
A.B., George Washington University; Ed.M., Ed.D., Boston University

Daniel C. Shartin, Professor (1993)
B.A., M.A., Ph.D., University of California at Los Angeles

Henry C. Theriault, Associate Professor (1998), Department Chair
B.A., Princeton University; Ph.D., University of Massachusetts

Kristin Waters, Professor (1999)
A.B., Bard College; M.A., Ph.D., University of Connecticut

The purpose of philosophy is the development of a free, responsible and civilized person with a critical and humane intelligence. To achieve this objective the student studies the major philosophers in the ancient, medieval, modern and contemporary periods, and the basic problems (political, social, moral, and metaphysical) concerning human nature and destiny.

Requirements for a Minor in Philosophy: 18 credits, including:

PH 260	Philosophy of Science (formerly PH 140 Philosophy of Science and Nature)

and a minimum of one of

PH 101	Ancient Western Philosophy
PH 102	History of Modern Western Philosophy, 1600-1800
PH 201	19th Century European Philosophy
PH 202	Selected Topic in 20th – 21st Century Philosophy

Minors should select their philosophy courses in consultation with an advisor in the department.

Philosophy Courses

For information on the Liberal Arts and Sciences Curriculum (LASC), see page 36

PH 100 Introduction to Philosophy

LASC—Human Behavior and Social Processes; Thought, Language and Culture

The fundamentals of philosophy: its vocabulary, problems, and methods.
Offered every year. 3 credits.

PH 101 Ancient Western Philosophy

An introduction to fundamental topics in Western philosophy through works by philosophers including Plato and Aristotle.
Typically offered at least every two years.

PH 102 History of Modern Western Philosophy, 1600-1800

LASC—Global Perspectives; Human Behavior and Social Processes; Thought, Language and Culture

Engages central topics of Western philosophy through study of important modern philosophers, typically from Descartes through Kant.
Typically offered at least every two years.

PH 110 Critical Thinking

LASC—Thought, Language and Culture

Critical thinking through informal logical analysis of argument styles, including identification of fallacious arguments.
Offered every year. 3 credits.

PH 115 Logic 1

LASC—Quantitative Reasoning

A study of introductory symbolic (formal) logic course, covering sentential logic and the foundations of predicate logic.
Offered every year. 3 credits.

PH 130 Ethics: Human Conduct and Values

LASC—Human Behavior and Social Processes; Thought, Language and Culture

The nature of morality and value and their place in the world of human action.
Offered every year. 3 credits.

PH 131 Medical Ethics

LASC—Human Behavior and Social Processes; Thought, Language and Culture

An introductory-level examination of various ethical issues such as abortion, euthanasia, cloning and other genetics issues, access to healthcare, race and healthcare, and women's health.
Typically offered at least every three years.

PH 132 Business Ethics

LASC—Human Behavior and Social Processes; Thought, Language and Culture

An introduction to ethical theory and issues such as truth-in-advertising, product liability, affirmative action, employer and employee rights and duties, whistle blowing, and corporate responsibility.
Typically offered at least every two years.

PH 133 Social and Political Ethics

LASC—Human Behavior and Social Processes; Thought, Language and Culture; Diversity Across the Curriculum

Investigates major social and political theories and their applications to selected problems of justice.
Offered every year. 3 credits.

PH 150 Women in Western Ideas

LASC—Human Behavior and Social Processes; Thought, Language and Culture; Diversity Across the Curriculum

Investigates the concept of woman from ancient Greece to the present.
Offered every 2 years. 3 credits.

PH 163 Philosophy on Television

LASC—Thought, Language and Culture; United States and Its Role in the World

An introduction to philosophy through philosophical writings on popular television shows.
Offered every three years. 3 credits.

PH 170 Ancient Chinese Philosophies in a Cultural Perspective

LASC—Global Perspectives; Thought, Language and Culture

Ancient Chinese philosophies of Taoism, Confucianism, Buddhism, and neo-Confucianism in the context of contemporary developments in China; Communism, Capitalism, and Western influences considered.
Offered every year. 3 credits.

PH 171 Buddhism: Theory and Meditative Experience

Examines the origins, texts, principles, and practices of Buddhist philosophy including the Four Noble Truths and Eightfold Path for individual practice.
Offered every year. 3 credits.

PH 172 Asian Philosophies and Contemporary Perspectives

LASC—Global Perspectives

Studies the philosophies of India, China, Japan, and the vitality of ancient traditions in a time of cultural change: Buddhism, Taoism, Confucianism, Jainism, Hinduism and Islam.
Offered every year. 3 credits.

PH 190 Special Topics in Philosophy

An introductory philosophy course on current or specialized topics
Offered every year. 3 credits.

PH 193 Special Topics in Philosophy for First-year Students

All "193" classes are approved for LASC but may vary by section. See current course listing for specific LASC area approval.

Introductory level course covering topics of special interest to first-year students. Offered only as a First-year Seminar.
Offered every year. 3 credits.

PH 201 19th Century European Philosophy

LASC—Human Behavior and Social Processes; Thought, Language and Culture

Engages the radical new philosophical ideas developed on the European Continent in the 19th Century, beginning with Hegel.
Typically offered at least every three years.

PH 202 Selected Topic in 20th – 21st Century Western Philosophy

LASC—Human Behavior and Social Processes; Thought, Language and Culture

Addresses a specific topic in 20th – 21st Century Western Philosophy. The topic will be indicated in each PH 202 registration listing.
Typically offered at least every three years.

PH 215 Logic 2

LASC—Quantitative Reasoning

Prerequisite: PH 115

Intermediate symbolic (formal) logic including multi-placed predicates and identity.
Offered every year. 3 credits.

PH 220 Philosophy of Mind

Prerequisite: EN 102

An investigation of the relationship between mental processes and physical states – and implications for such issues as personal identity and free will.
Typically offered at least every three years.

PH 221 Existentialism and Phenomenology

LASC—Thought, Language and Culture; Global Perspectives

Examines the Existentialist movement of the first half of the 20th Century.
Typically offered at least every three years.

PH 230 Religious Philosophies, East and West

An examination of the major religious systems, both oriental and occidental.
Offered every 2 years. 3 credits.

PH 240 Political Theory

LASC—Thought, Language and Culture; United States and Its Role in the World

Investigates concepts including political power, equality, revolution, liberties, slavery, socialism and liberalism, patriarchal power, race and gender.
Offered every 3 years. 3 credits.

PH 241 Genocide and Human Rights

LASC—Global Perspectives; United States and Its Role in the World

This course treats the ethical, political, and other dimensions of systematic mass violence through case studies and general theoretical analyses.
Offered every 3 years. 3 credits.

PH 242 Race, Nation, Class, Gender, and Sexuality

LASC—Human Behavior and Social Processes; United States and Its Role in the World

Examines these five important social categories that define the political, legal, economic, and cultural contexts in which we live.
Typically offered at least every three years.

PH 250 Global Feminisms

LASC—Global Perspectives; Thought, Language and Culture

Investigates the theoretical underpinnings of women's movements for equal rights around the globe.
Offered every 2 years. 3 credits.

PH 251 Mass Violence Against Women

LASC—Global Perspectives; United States and Its Role in the World

A philosophy-based, interdisciplinary course examining historical and contemporary mass violence against women.
Typically offered at least every three years.

PH 260 Philosophy of Science

LASC—Human Behavior and Social Processes; Thought, Language and Culture

Critically investigates such questions as: What distinguishes sciences from pseudo-sciences? When is a theory confirmed? What is a law of nature?
Typically offered at least every two years.

PH 261 Philosophy of Religion

Examination of the roles of faith and reason in beliefs concerning a deity and in such issues as the problem of evil.
Typically offered at least every two years.

PH 263 Film and Philosophy

LASC—Human Behavior and Social Processes; Thought, Language and Culture

An intermediate course on philosophy within and about film.
Typically offered at least every three years.

PH 264 Philosophy of Education

Examines philosophical approaches to education through readings of various authors such as Plato, Rousseau, Wollstonecraft, and Dewey.
Typically offered at least every three years.

PH 290 Advanced Special Topics in Philosophy

A treatment of current or special topics for students beyond the introductory level.
Offered every year. 3 credits.

PH 301 Individual Figure in the History of Western Philosophy

Prerequisite: EN 102

Studies a specific Western philosopher. The philosopher for a given semester will be indicated in the course registration listings.
Offered every 3 years. 3 credits.

PH 302 Topics in American Philosophy

Prerequisite: EN 102

Treats a selected set of topics in the history of philosophy in the United States.
Offered every 3 years. 3 credits.

PH 320 Topics in Metaphysics and Epistemology

Prerequisite: EN 102

Selected topics in theories of mind, language, and knowledge.
Offered every 3 years. 3 credits.

PH 330 Philosophy, Human Potentiality and Consciousness

Prerequisite: One semester of philosophy

The application of philosophical knowledge to the problems of creative self-actualization and consciousness.
Offered every 3 years. 3 credits.

PH 340 Selected Topics in Social and Political Philosophy

Prerequisite: EN 102

Explores a particular social and political issue, as indicated in the registration course listing, from a philosophical perspective.
Offered every 3 years. 3 credits.

PH 360 Philosophy of History

LASC—Global Perspectives; United States and Its Role in the World

Prerequisite: One semester of philosophy

Explores the different philosophical approaches to the study and writing of history and the nature of historical change and development.
Offered every 3 years. 3 credits.

PH 361 Philosophy of Art

Prerequisite: One semester of philosophy

An investigation of the nature of aesthetic experience.
Offered every 3 years. 3 credits.

PH 390 Independent Study

Prerequisite: Consent of the instructor

Special topics for advanced research and study under the guidance of a faculty member. Tutorials in areas of study not covered in other course offerings.
Offered every 3 years. 3 credits.

PH 391 Internship in Philosophy

Prerequisite: EN 102

Provides an opportunity for mid-level or advanced students to increase their philosophical knowledge and understanding.
Offered every 3 years. 3 credits.

Physical Education
Department of Health Sciences

The physical education program offers students participation in individual, dual, and team sports.

Minor in Health Fitness: 25 credits
The Minor in Health Fitness provides basic knowledge and skills for entering this popular and growing field. Applications focus on improving health and fitness at both the individual and population levels.

A minimum grade of 2.0 must be earned in required and elective courses. Prerequisites must average a minimum of 2.0.

Required Courses:

HE 120	Health and Nutrition	3 credits
PE 210	Foundations of Strength and Conditioning	3 credits
PE 220	Survey of Athletic Training	3 credits

Elective Courses: 9 credits

PE/HE 150	Health and Physical Education for the Teacher	3 credits
PE 190	Sport and Society	3 credits
PE 240	Athletic Programs	3 credits
PE/HE 260	First Aid: Advanced Theory and Skills	3 credits
PE/HE 275	Fitness for Life	3 credits
PE/HE 280	Stress Management	3 credits
HE 385	Drugs and Society	3 credits
PE 420	Practicum in Health Fitness	3 credits

Physical Education Courses

For information on the Liberal Arts and Sciences Curriculum (LASC), see page 36

PE 100 Physical Education Activity Courses

Activities include basketball, dance, fitness, football, golf, racquetball, relaxation, sailing, self-defense, softball, tennis, volleyball, weight training, yoga.
Offered every year. 1 credit.

PE/HE 140 Introduction to Creative Arts and Health

An experiential and didactic introduction to making connections between the arts process/product and health.
Offered every 3 years. 3 credits.

PE/HE 150 Health and Physical Education for the Teacher

The planning, development, implementation and evaluation of comprehensive health education programs.
Offered every year. 3 credits.

PE 175 Principles of Coaching

The values, relationships, and skills necessary to coach children and young adults in competitive athletics.
Offered every 2 years. 3 credits.

PE 190 Sport and Society

Analysis of sport as a social system; the implications of sport within interrelational contexts of other social systems.
Offered every 2 years. 3 credits.

PE 205 Coaching Team Sports for Men

The techniques and strategies of coaching basketball and baseball.
Offered every 2 years. 3 credits.

PE 210 Foundations of Strength and Conditioning

Prerequisites: BI 161 and HE 170 or BI 271

An introduction to the principles of functional training that meet sport specific needs of athletes.
Offered every year. 3 credits.

PE 215 Coaching Tennis

Selecting, training, strategies and teaching techniques in developing a tennis program.
Offered every year. 3 credits.

PE 220 Survey of Athletic Training

Prerequisites: BI 161 and HE 170 or BI 271

General overview of athletic training with a clinical approach to prevention, evaluation and rehabilitation of injuries common to athletes.
Offered every 2 years. 3 credits.

PE 240 Athletic Programs

Financing, scheduling, administering, and evaluating high school sports.
Offered every year. 3 credits.

PE/HE 260 First Aid: Advanced Theory and Skill

Common emergencies, cardiopulmonary resuscitation, auto extrication, and emergency childbirth. Opportunity for instructor rating.
Offered every 3 years. 3 credits.

PE/HE 275 Fitness for Life

Knowledge of health-related fitness components and their effect on total wellness; emphasis on developing personalized fitness programs.
Offered every year. 3 credits.

PE/HE 280 Individualized Stress Management and Relaxation

Strategies and techniques for increasing stress resistance based on psychophysiological research.
Offered every year. 3 credits.

PE 300 Fitness Appraisal and Exercise Prescription

Prerequisites: BI 161, BI 162, PE 275

Administration and interpretation of health-fitness tests, formulation of individualized exercise prescriptions and methods of teaching fitness programs.
Offered every year. 3 credits.

PE 400 Independent Study in Physical Education/Coaching

Prerequisite: Consent of department

Opportunity to engage in research in an area of special interest not covered in elective course offerings.
Offered every year. 1 - 6 credits.

PE 410 Field Experience in Physical Education/Coaching

Prerequisite: Consent of department

Organizing and conducting either physical education or coaching activities at the elementary or secondary level. (40 hours for each credit)
Offered every year. 3-6 credits.

PE 415 Special Topics in Physical Education

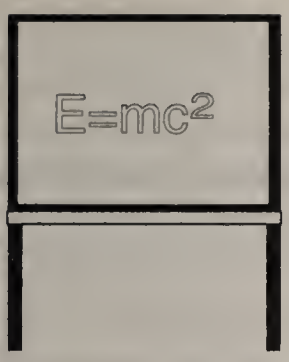
Prerequisite: Permission of department and instructor

Covers special interest topics.
Offered every semester. 3 credits

PE 420 Practicum in Health Fitness

Prerequisite: Consent of department

Opportunity to gain practical experience under supervision in a health fitness field placement.
Offered every year. 3 credits.



Physics
Department of Physical and Earth Sciences

Faculty

William A. Belanger, Associate Professor (1967)
B.S., Ed.M., Worcester State College; M.N.S., Worcester Polytechnic Institute

Francisco J. Lamelas, Associate Professor (2005)
B.S., University of Wisconsin, Milwaukee; M.S., University of Wisconsin;
M.S., Ph.D., University of Michigan

Sudha R. Swaminathan, Associate Professor (2005)
A.B., (Physics), A.B., (Mathematics) Mount Holyoke College;
M.S., Ph.D., University of Michigan

Requirements for a Minor in Physics: 18 credits in Physics including

PY 221 & PY 222	General Physics I and II or
PY 241 & PY 242	Physics I and II

A physics minor is very useful in many technical fields, since the study of physics develops an understanding of basic principles, mathematical modeling, and practical applications. Specific areas where a physics background is useful include imaging techniques in medicine and biology, analytical instrumentation in chemistry, remote-sensing techniques in the geosciences, and the development of realistic physical models in computer science and mathematics.

Physics Courses

For information on the Liberal Arts and Sciences Curriculum (LASC), see page 36

PY 101 Introduction to Astronomy

The tools of the astronomer. The nature of stars, their location and cosmology. Planets and the solar system.
Offered every year. 3 credits.

PY 105 Concepts in Physics I

LASC—Natural Systems and Processes

Prerequisite: Accuplacer code 3 or above

Concepts and physical principles of motion, force, mechanical work, energy, and momentum. Torque and angular momentum. Fluids, heat, and thermodynamics. Two lectures and one two-hour laboratory.
Offered every year. 3 credits.

PY 106 Concepts in Physics II

LASC—Natural Systems and Processes

Prerequisite: Accuplacer code 3 or above

Electrostatics, including electric forces and electric potential. Simple circuits, electrical power, and generators. Magnetic fields and forces, light, and relativity.
Offered every year. 3 credits.

PY 112 Physics in Art

LASC—Natural Systems and Processes

Concepts in optics and modern physics applied to the analysis of paintings, conservation of art objects and detection of forgeries. Two lectures and one two-hour laboratory.
Offered every year. 3 credits.

PY 114 Physics of Waves

Prerequisite: Accuplacer code 3 or above

Wave phenomena, including water waves, sound, acoustics, musical instruments, optics and quantum mechanics. Analysis of propagation, power, scattering and interference.
Offered every year. 3 credits.

PY 193 Special Topics in Physics for First-year Students

All "193" classes are approved for LASC but may vary by section. See current course listing for specific LASC area approval.

Introductory level course covering topics of special interest to first-year students. Offered only as a First-year Seminar.
Offered every year. 3 credits.

PY 215 Biological Physics I

Prerequisite: Six hours of biological science or consent of instructor

Traditional areas of introductory physics, such as mechanics, heat, sound, with emphasis on bioinstrumentation; two lectures and one two-hour laboratory.
Offered every 3 years. 3 credits.

PY 216 Biological Physics II

Prerequisite: PY 215

Continuation of PY 215; research project required; two lectures and one two-hour laboratory.
Offered every 3 years. 3 credits.

PY 221 General Physics I

LASC—Natural Systems and Processes

Prerequisite: One year of algebra

The mechanics of fluids and solids, properties of matter, and heat energy; three lectures and one two-hour laboratory.
Offered every year. 4 credits.

PY 222 General Physics II

LASC—Natural Systems and Processes

Prerequisite: One year of algebra, PY 221

Sound, theories of light, electricity, and magnetism, and topics in modern physics; three lectures and a two-hour laboratory.
Offered every year. 4 credits.

PY 240 Optics

Prerequisite: One semester of college-level physics and MA 190, or consent of the instructor.

Image formation with mirrors and lenses. Interference, diffraction, dispersion, and polarization. Lasers. Microscopes and spectrometers. Cameras and image processing.
Offered every 2 years. 3 credits.

PY 241 Physics I (Mechanics)

LASC—Natural Systems and Processes

Prerequisite: One semester of calculus (may be taken concurrently).

Physics with calculus, including kinematics, dynamics, energy, momentum, gravity, oscillators, waves, and heat. Three hours lecture and two hours lab.
Offered every year. 4 credits.

PY 242 Physics II (Electricity, Magnetism and Optics)

LASC—Natural Systems and Processes

Prerequisite: One semester of calculus, PY 241.

Electric and magnetic fields. Resistance, capacitance, and inductance. Optics, including reflection, refraction, and interference. Topics in modern physics. Three hours lecture and two hours lab.
Offered every year. 4 credits.

PY 271 Analog and Digital Electronics I

Prerequisite: MA 110

Basic principles of digital and linear integrated circuits. Laboratory on direct-current circuit elements and theorems; breadboard testing of digital and operational amplifier applications; three lectures and two-hour laboratory.
Offered every year. 4 credits.

PY 272 Analog and Digital Electronics II

Prerequisite: PY 271

Continuation of PY 271; additional applications of digital integrated circuits; three lectures and a two-hour laboratory.
Offered every year. 4 credits.

PY 297 Selected Topics in Physics

Prerequisite: Consent of instructor

Lecture or laboratory course in a selected area in physics. Topic announed in advance.
Offered every 1 or 2 years. 3-4 credits.

PY 310 Modern Physics

Prerequisite: PY 222 or PY 242, and one semester of calculus.

Special relativity. The wave nature of matter, introductory quantum mechanics, and atomic physics. Condensed matter. Radioactivity. Nuclear and particle physics.
Offered every 2 years. 3 credits.

PY/CH 360 Introduction to Materials Science

Prerequisites: CH 120, CH 121, and either PY 221, PY 222 or PY 241, PY 242

Physical structure of solids. Electrical, magnetic, thermal and optical properties of solids, liquids and soft matter. Structure-property relationships in materials.
Offered every 2 years. 3 credits.

PY 410 Independent Study In Physics

Prerequisite: Consent of department

Opportunity for advanced students to pursue topics of special interest involving extensive reading, experimentation, and research.
Offered every year. 1-6 credits.

PY/BI 451 Nuclear Instrumentation I

Prerequisite: Consent of NMT coordinator

The structure, functions, and interactions of particulate and non-particulate radiations with matter, detection, calibration, dosage, and statistical methods.
Offered every year. 4 credits.

PY/BI 452 Nuclear Instrumentation II

Prerequisite: Consent of NMT coordinator

Designed to further the skills of operating, calibrating, and performing routine maintenance on scanners, gamma cameras, well counters, and liquid scintillation counters.
Offered every year. 4 credits.

Political Science

Department of History and Political Science

Faculty

Joseph P. Baratta, Associate Professor (1999)
B.A., St. John's College; M.A., M.A.T., Ph.D., Boston University

Frank S. Minasian, Associate Professor (1968), Department Chair
A.B., Clark University; M.A.T., Assumption College

Najib E. Saliba, Professor (1971)
A.B., Miami University; M.A., Ph.D., University of Michigan

Emmett A. Shea, Professor (1962)
B.S., Ed.M., M.A., Boston University; M.A., Boston College

Robert W. Smith, Assistant Professor (2007)
B.A., Syracuse University; M.A., Ph.D., College of William and Mary

David J. Twiss, Associate Professor (1968)
B.S., Ed.M., Worcester State College; M.A., Assumption College

Requirements for a Minor in Political Science: 18 credits
PO 101 Principles of Political Science
Political Science electives: 15 credits

Political Science Courses

For information on the Liberal Arts and Sciences Curriculum (LASC), see page 36

PO 101 Principles of Political Science

LASC—Human Behavior and Social Processes

An introduction to political analysis; study of the concepts of power, legitimacy, natural law, justice and liberty.
Offered every year. 3 credits.

PO 102 Constitutions: US and Massachusetts

LASC—Constitutions; United States and Its Role in the World

Examines the origins and development of the United States and Massachusetts Constitutions. Meets Massachusetts General Laws, Chapter 73, Sec 2A requirement.
Offered every year. 3 credits.

PO 103 Fundamentals of Legal Research

Locating the text of statutes, regulations and court decisions (state and national) for a particular date and on specific subjects.
Offered every 3 years. 1 credit.

PO 193 Special Topics in Political Science for First-year Students

Introductory level course covering topics of special interest to first-year students. Offered only as a First-year Seminar.
Offered every year. 3 credits.

PO/HI 201 International Relations I

LASC—Global Perspectives; United States and Its Role in the World

Theory and practice of international security (realism and internationalism) and international political economy (liberalism and protectionism) in their historical context.
Offered every year. 3 credits.

PO/HI 202 International Relations II

LASC—Global Perspectives; United States and Its Role in the World

Prerequisite: PO 101 or HI 103 or HI 104

The promise and problems of globalization (spread of free market capitalism and political democracy).
Offered every year. 3 credits.

PO 210 American Government

Examines our national government and politics.
Offered every year. 3 credits.

PO/HI 211 History of US Foreign Policy I

LASC—United States and Its Role in the World

Prerequisite: HI 111 or HI 112

Colonial origins to the era of the Spanish-American War. The sources and development of US foreign policy in that period.
Offered every year. 3 credits.

PO/HI 212 History of US Foreign Policy II

LASC—United States and Its Role in the World

Prerequisite: HI 111 or HI 112

From 1900 to recent times; US foreign policy traditions and the challenges of great power status.
Offered every year. 3 credits.

PO 213 The Modern Presidency

This course will examine the evolution of the presidency. Special attention is given to those presidents who have expanded the office.
Offered every 3 years. 3 credits.

PO 215 State and Local Government

Examines sub-national governments and politics in the United States; the structure and problems of these governments.
Offered every year. 3 credits.

PO 216 Political Parties and Pressure Groups

Examines the organization, functions, and methods of political parties; the role of interest groups in the American political process.
Offered every year. 3 credits.

PO 217 The Legislative Process

The nature and function of the US Congress, including legislative campaigns, politics, and major problems of Congress.
Offered every 3 years. 3 credits.

PO/HI 218 US Constitutional History I

The development of constitutional history as seen in decisions of the US Supreme Court and their effects from 1789 to 1921.
Offered every 2 years. 3 credits.

PO/HI 219 US Constitutional History II

Supreme Court decision-making from 1921; federal-state relations, civil liberties, civil rights, loyalty program, labor, rights of defendants.
Offered every 2 years. 3 credits.

PO 220 Comparative Politics I

Prerequisite: PO 101

A comparative study of the politics and governments of Great Britain, Germany, and Russia.
Offered every 3 years. 3 credits.

PO 221 Comparative Politics II

Prerequisite: PO 101

A comparative study of the political and social systems of South Africa and India, including recent trends in their political development.
Offered every 3 years. 3 credits.

PO/HI 259 Crisis Management

A study of the decision making process regarding crisis situations, i.e., the role of the President, Congress, Intelligence Community and the Military.
Offered every 2 years. 3 credits.

PO/HI 320 Citizen Nation

LASC—Constitutions; Thought, Language and Culture; United States and Its Role in the World; Diversity Across the Curriculum; Writing Across the Curriculum

Prerequisites: HI 111 or HI 112

Explores the history and meaning of citizenship in the United States, including discrimination, rights struggles and changing citizenship criteria.
Offered every 3 years. 3 credits.

PO/HI 330 Politics of the Middle East I

Prerequisite: PO 101 or HI 261 or HI 314

Discusses governments and politics of eastern Arab countries, Turkey, Iran, and Israel. International rivalries in the area are also discussed.
Offered every year. 3 credits.

PO 350 The Government and Politics of the Soviet Union and the Russian Federation

Prerequisite: PO 101

An analysis of the forces and institutions which have influenced political developments in the Soviet Union and the Russian Federation since 1917.
Offered every 3 years. 3 credits.

PO 355 Foreign Policy of the Soviet Union and the Russian Federation

Prerequisite: PO 101

An analysis of the instruments and developments of the Soviet Union's and the Russian Federation's foreign policies since 1917.
Offered every 3 years. 3 credits.

PO 370 Crisis Politics

Prerequisite: PO 101

Analysis of theories regarding the roots of violence, revolution, and terrorism. Special attention will be devoted to violence in America.
Offered every 2 years. 3 credits.

PO 380 American Foreign Policy Since the Cold War

Prerequisite: PO 101 or HI 112 or HI 212

Instruments of American foreign policy; major foreign policy developments since 1947.
Offered every 2 years. 3 credits.

PO 400 Independent Study in Political Science

Prerequisite: Consent of Instructor

Special topics for advanced research and study under the guidance of a faculty member.
Offered every year. 1 - 3 credits.

PO/HI 440 Internship in American Studies

Prerequisite: Consent of Instructor

Internships in museums, archives, government agencies, etc. Performing a variety of tasks at beginning professional level in cooperating institutions.
Offered every year. 3 - 6 credits.

PO 450 Special Topics in Political Science

Selected areas of interest to students and instructors.
Offered every 3 years. 3 credits.

Psychology
Department of Psychology

Faculty

Amy Cota-McKinley, Associate Professor (2002)
B.A., University of Wisconsin-Milwaukee; M.S., Jacksonville State University; Ph.D., Colorado State University

Bernard J. Guarini, Associate Professor (1965),
B.S., College of the Holy Cross; M.A., Clark University; M.A., C.A.G.S., Assumption College

Bonnie G. Kanner, Professor (1997)
B.A., M.S., C.A.S., University at Albany, State University of New York; Ph.D. Clark University

Holly Ketterer, Assistant Professor (2010)
B.S., M.S., Ph.D., Central Michigan University

Richard K. Kimball, Associate Professor (1985)
A.B., Dartmouth College; Ph.D., State University of New York, Buffalo

Pearl Mosher-Ashley, Professor (1989)
A.B., M.A., Mount Holyoke College; Ph.D., University of Massachusetts

Beth S. Russell, Assistant Professor (2006)
B.A., Hampshire College; M.A., Ph.D., University of Connecticut

Brandi Silver, Associate Professor (2003)
B.S., M.S., Ph.D., Colorado State University

Emily Soltano, Associate Professor, Department Chair (1999)
B.A., Ph.D., University at Albany, State University of New York

Champika K. Soysa, Associate Professor (2003)
B.A., Mount Holyoke College, M.A., Ph.D., Clark University

Seth Surgan, Assistant Professor (2006)
B.A., University of North Carolina at Chapel Hill; M.A., Ph.D., Clark University

Marc J. Wagoner, Assistant Professor (2004)
B.A., Morehouse College, Atlanta, GA; Ph.D., University of Minnesota

Psychology courses acquaint students with basic principles of learning, motivation, development, and interpersonal relationships, providing a foundation for effective living and a background for a variety of career opportunities. The major provides students with a wide range of marketable and graduate study skills that include interpersonal awareness, problem-solving, research, and computer literacy.

Baccalaureate degree holders are prepared for entry level positions in a broad range of areas including health and social services, mental health, organizational leadership and

management, community relations, education, human resources, program development, public affairs, social science research, and programs for women. Psychology is recognized in Massachusetts as a certificate academic major for Early Childhood and Elementary Education students. Those who major in psychology are able to develop an expertise in one of the Department's areas of concentration: Mental Health Services, Developmental Process, and Industrial/Organizational Psychology. Those with bachelor's degrees in psychology work in the same fields as do psychologists with graduate degrees. Some of the department's alumni:

- Counsel or teach people in group homes, nursing homes, and clinics
- Are case managers in insurance companies
- Plan and execute research
- Help young people in juvenile courts, schools and recreational programs
- Are behavior specialists
- Counsel drug addicts and victims of abuse

The department provides solid preparation for graduate work in psychology by helping students develop specializations and providing opportunities for the development of excellent research skills. The department offers an HONORS program and an internship program and operates a state-of-the-art computer laboratory. Psi Chi, the national honor society in psychology, is available to outstanding students who major in the discipline.

The **minor** program offers an opportunity for students wishing to develop a core understanding of psychology. The minor is not meant for students whose primary interest is the study of psychology; instead, it is a complement to other fields of study where knowledge of psychology and its methods would be beneficial.

Admission Requirements: Admission is open to any student who is interested in psychology and who can maintain a 2.0 grade point average in the required and elective psychology courses.

Standards for Minimum Academic Performance in the Psychology Major: The Psychology major requires a minimum grade of C- in all courses applied to the major. Courses may be repeated. The C- minimum grade does not apply to psychology courses beyond those applied to the major (four specified, four from specified areas and four elective courses). Students must maintain a minimum overall GPA of 2.0 in the major, consistent with Worcester State policy.

Requirements for a Major in Psychology: The Psychology major requires successful completion of 12 courses in Psychology. Four of these courses are specific core requirements; four are from specified areas and the remaining four are electives. The minimum of 37 credits must include the following four core courses:

PS 101	General Psychology
PS 205	Research Methods
PS 275	Psychological Statistics
PS 307	Applied Research Methods

and at least four courses (12 credits) from the following, including one from each of four different areas:

Area 1 — Developmental

1 — PS 210	Child Growth and Development
2 — PS 215	Psychology of Adolescence
3 — PS 220	Psychology of Aging

Area 2 — Social Psychology

1 — PS 250	Social Psychology
2 — PS 252	Applied Social Psychology

Area 3 — Personality and Abnormal Psychology
- 1 — PS 330 Theories of Personality
- 2 — PS 335 Abnormal Psychology
- 3 — PS 340 Introduction to Psychometrics

Area 4 — Learning and Cognition
- 1 — PS 325 Psychology of Learning
- 2 — PS 345 Cognitive Psychology

Area 5 — Biopsychosocial Processes
- 1 — PS 280 Sensation and Perception
- 2 — PS 380 Physiological Psychology
- 3 — PS 222 Introduction to Health Psychology

and 12 credits in psychology electives. At least three courses (nine credits) must be at a 300 and/or 400 level.

Evening Psychology: The required core courses for the Psychology Major may be completed with evening or summer classes. Many core courses are offered in the evening during each academic year as well as some elective courses. Internships and independent study courses, however, are only offered in fall and spring day classes.

HONORS Program: The HONORS program is designed to increase opportunities for students of outstanding ability to engage in independent work and prepare for more challenging futures. It is especially recommended for students planning to pursue graduate education.

The HONORS project must be completed and presented to the faculty sponsor. Students are required to make an oral presentation on the project in a session open to all faculty and students in the department.

Admission to the HONORS program is by application. The admission requirements, closing date for application and instructions for completing the application process may be obtained from the Department Office.

Concentrations: Students may choose to simply major in psychology *without* a particular specialization (by completing the Requirements for a Major in Psychology) or may choose to major in psychology *with* a specialization by completing the requirements for a concentration in Mental Health Services, Industrial/Organizational Psychology or Developmental Processes. They may also specialize by completing the requirements for an Interdisciplinary Concentration in Women's Studies.

Requirements for a Major in Psychology, Concentration in Mental Health Services: 40 credits.

This concentration prepares students for graduate school and/or employment in agencies serving the mental health needs of special populations, including people with mental disabilities, addiction, and cognitive, emotional, and behavioral problems. In addition to the four core and four area courses in psychology, the following courses are required:

- PS 330 Theories of Personality
- PS 335 Abnormal Psychology
- PS 340 Introduction to Psychometrics
- PS 400 Internship in Psychology (3 hours)
  or PS 318 Behavior Management
  or PS 315 Physical and Sexual Abuse
- PS 435 Clinical Psychology
- PS 492 Capstone in Mental Health

Requirements for a Major in Psychology, Concentration in Industrial/ Organizational Psychology: 37 credits.

The Industrial/Organizational Psychology concentration is for those students who desire to focus on organizational settings by applying psychological theory and methodology to the solution of a wide variety of human problems. They range from selection and training to employer-employee interactions to organizational development. The Industrial/ Organizational program is designed as preparation for entry-level career jobs or specialization in industrial/organizational graduate studies. In addition to the four core and four specified area psychology courses, the following courses are required:

PS 360 Industrial/Organizational Psychology
PS 365 Leadership Development
PS 400 Internship in Psychology
PS 460 Advanced Industrial/Organizational Psychology

and any two of the following:

PS 250 Social Psychology
PS 340 Introduction to Psychometrics
PS 350 Group Dynamics

Requirements for a Major in Psychology, Concentration in Developmental Processes: 37 to 43 credits.

This concentration provides background for students planning careers related to developmental disabilities, special education, child and adolescent services, or hospital and nursing home programs for the disabled or aging. Developmental Process is especially recommended for students in education.

The four core and four specified area psychology courses are required plus:

PS 210 Child Growth and Development
PS 215 Psychology of Adolescence
or PS 220 Psychology of Aging
PS 325 Psychology of Learning
or PS 345 Cognitive Psychology
PS 380 Physiological Psychology
PS 410 Seminar in Developmental Processes

and three electives selected from the following:

PS 310 Development of Exceptional Children and Youth
PS 318 Behavior Management
PS 320 Development of Thinking and Knowing
PS 355 Social and Personality Development
PS 400 Internship in Psychology

PS 400 Internship in Psychology is recommended for any student who has not had an appropriate fieldwork experience.

Requirements for a Major in Psychology, Interdisciplinary Concentration in Women's Studies: 15 credits. Psychology majors may elect an interdisciplinary concentration in Women's Studies beyond the requirements of the Psychology major. Five courses may be selected from any course with a "WO" prefix, from at least two disciplines.

Minor in Psychology: Students may choose to minor in psychology without a particular specialization (by completing the Requirements for a Minor in Psychology) or may choose to minor in psychology with a specialization in Developmental Disabilities Psychology.

Requirements for a Minor in Psychology: The Psychology minor requires successful completion of six courses in Psychology. The minimum 18 credits must include:

PS 101 General Psychology
and 15 credits in psychology electives

Requirements for a Minor in Developmental Disabilities Psychology: 18-21 credits. This minor is intended for students whose vocational goals include work with the developmentally disabled. Required courses include:

PS 101	General Psychology
PS 210	Child Growth and Development
PS 215	Psychology of Adolescence
PS 310	Development of Exceptional Children/Youth
PS 318	Behavior Management Techniques
PS 485	Psychobiology of Mental Disorders

Psychology Courses (Undergraduate)

For information on the Liberal Arts and Sciences Curriculum (LASC), see page 36

PS 101 General Psychology

LASC—Human Behavior and Social Processes

Introduction to history of psychology, scientific method; brain/nervous system, development, learning, motivation, sensation/perception, personality, psychopathology, psychotherapy, cognitive processes, social behavior.
Offered every year. 3 credits.

PS 191 Topics in Psychology

This course is an exploration of current and specialized topics in Psychology. It will not be counted toward the major.
Offered every year. 3 credits.

PS 193 Special Topics in Psychology for First-year Students

All "193" classes are approved for LASC but may vary by section. See current course listing for specific LASC area approval.

Introductory level course covering topics of special interest to first-year students. Offered only as a First-year Seminar.
Offered every year. 3 credits.

PS 205 Research Methods

Prerequisite: PS 101

Exploration of psychological research methodologies including: scientific method; design, conduction, analysis, and reporting of research; ethical principles and APA format.
Offered every year. 3 credits.

PS 210 Child Growth and Development

LASC—Human Behavior and Social Processes

Prerequisite: PS 101

Physical, social, emotional, intellectual, and moral development from conception to adolescence is examined within a framework of various theories.
Offered every year. 3 credits.

PS 215 Psychology of Adolescence

Prerequisite: PS 101

The mental, emotional, social and physical changes of contemporary adolescence are examined with emphasis on family, peer and school influences.
Offered every year. 3 credits.

PS 220 Psychology of Aging

Prerequisite: PS 101

Adulthood and old age are studied with special emphasis on current developmental theories.
Offered every year. 3 credits.

PS 222 Introduction to Health Psychology

Prerequisites: PS 101

Introduction to the areas and methods of Health Psychology. Topics include: epidemiology, behavior change, compliance, alternative medicine, healing, chronic illness.
Offered every 2 years. 3 credits.

PS 224 Positive Psychology

Prerequisite: PS 101

Exploration of the psychological research on a fulfilling and flourishing life including happiness, self-esteem, love, goalsetting, mindfulness and spirituality.
Offered every other year. 3 credits

PS 250 Social Psychology

Prerequisite: PS 101

The psychological dynamics of social interaction including verbal and nonverbal communication, group dynamics and attitude formation and change.
Offered every year. 3 credits.

PS 252 Applied Social Psychology

Prerequisite: PS 101

Survey of applied social psychology including: psychology in educational, organizational, and legal settings; diversity, environmental, health, media, and consumer issues.
Offered every year. 3 credits.

PS 255 Psychological Foundations of Diversity

Prerequisite: PS 101

Explores the gender, racial/ethnic, multiple-group membership, cultural, social class, religious, disability and sexual orientation facets of diversity.
Offered every 3 years. 3 credits.

PS 260 Psychology of Human Sexuality

Prerequisite: PS 101

Sexuality as a foundation of personality. The wide range of human sexuality is explored; sexual development, roles, attitudes and behaviors.
Offered every 2 years. 3 credits.

PS 263 Psychology of Women

Prerequisite: PS 101

Women's psychological development throughout the lifespan will be examined, including female development, achievement, stereotyping, stress, violence and psychological disorders.
Offered every 2 years. 3 credits.

PS 275 Psychological Statistics

Prerequisites: PS 101, Score of 3 on math Accuplacer or passing grade in college level math class

Data tabulation; graphing; measurement of central tendency, variability and correlation; hypothesis testing applied to psychological and sociological data. Hand and computer analysis.
Offered every year. 4 credits.

PS 280 Sensation and Perception

Prerequisite: PS 101

Selected sensory and perceptual processes are studied in the context of current theory and research.
Offered every year. 3 credits.

PS 295 Special Topics in Psychology

Prerequisites: PS 101

Selected areas of mutual interest to instructor and students. Topics and prerequisites are announced in advance.
Offered every year. 3 credits.

PS 297 Independent Study: Research in Psychology

Prerequisites: PS 101, PS 205 or PS 275, Consent of instructor

Students pursue an area of research interest under faculty supervision. May include assisting faculty with ongoing research. Written report(s) required.
Offered every semester. 1-3 credits

PS 307 Applied Research Methods

Prerequisites: PS 101, PS 205, PS 275

Extension of research design and methods introduced in PS 205: Research Methods, including applied research design, statistical analysis, and scientific writing.
Offered every year. 3 credits.

PS 310 Development of Exceptional Children/Youth

Prerequisites: PS 101

Characteristics and needs of children with exceptionalities including behavior retardation, giftedness, physical or sensory disabilities, emotional or social maladjustments.
Offered every 2 years. 3 credits.

PS 315 Physical and Sexual Abuse

Prerequisites: PS 101

Etiology, characteristics, consequences, treatment, and prevention of various forms of physical, sexual, and emotional abuse in children, adolescents, and adults.
Offered every 2 years. 3 credits.

PS 318 Behavior Management Techniques

Prerequisites: PS 101

Considers the basic concepts of behavior management, including behavior modification for exceptional and normal populations.

Offered every year. 3 credits.

PS 320 Development of Thinking and Knowing

Prerequisites: PS 101, PS 210

This course will examine human development of thinking and knowing from the Piagetian/Neo-Piagetian, Information Processing and Sociocultural Perspectives.
Offered every year. 3 credits.

PS 325 Psychology of Learning

Prerequisite: PS 101
Learning as a fundamental concept in understanding behavior; examines principles and theories of learning, emphasizing experimental findings.
Offered every year. 3 credits.

PS 330 Theories of Personality

Prerequisites: PS 101

A survey of major theories of personality. Why people behave as they do is explored through the different theories.
Offered every year. 3 credits.

PS 335 Abnormal Psychology

Prerequisite: PS 101

Etiology, dynamics, and treatment of psychopathology and their relation to normal personality are considered from traditional and contemporary perspectives.
Offered every year. 3 credits.

PS 340 Introduction to Psychometrics

Prerequisites: PS 101, PS 275

Methods and instruments used in the evaluation of the psychological attributes of human beings.
Offered every year. 3 credits.

PS 345 Cognitive Psychology

Prerequisite: PS 101

This course introduces students to areas of cognitive psychology including memory, language processing and decision making.
Offered every year. 3 credits.

PS 350 Group Dynamics

Prerequisite: PS 101

Group process deals with the basic issues of leadership, membership, developmental stages and types of groups, theoretically and experientially.
Offered every year. 3 credits.

PS 355 Social and Personality Development

Prerequisites: PS 101

This course will examine social and personality development from Piagetian, Neo-Piagetian and Sociocultural perspectives.
Offered every year. 3 credits.

PS 360 Industrial/Organizational Psychology

Prerequisite: PS 101

A concentration on the work of the psychologist in industry/business and other organizational settings in the public and private sectors.
Offered every year. 3 credits.

PS 380 Physiological Psychology

Prerequisite: PS 101

Psychobiological problems; current physiological research in emotion, motivation and learning and the use of physiological methods in psychology.
Offered every year. 3 credits.

PS 385 Motivation

Prerequisite: PS 101

A study of conditions that arouse, direct and sustain behavior. Topics include: goals, competence, control, arousal, self-esteem, achievement and stress.
Offered every year. 3 credits.

PS 390 History and Systems of Psychology

Prerequisite: PS 101

An historical perspective, tracing the development of psychology into a science.
Offered every year. 3 credits.

PS 400 Internship in Psychology

Prerequisite: Consent of Instructor

Provides opportunity to advanced students to increase experience through internship with sponsoring community organization, institution, or business under appropriate supervision.
Offered every year. 1-3 credits

PS 405 Independent Study: Topics in Psychology

Prerequisites: PS 101, PS 205, PS 275, Consent of Instructor

Students pursue an area or topic of interest under faculty supervision. Written report(s) required
Offered every semester. 3 credits.

PS 407 Independent Study: Advanced Research in Psychology

Prerequisites: PS 101, PS 205, PS 275, PS 307, Consent of instructor

Students undertake empirical research under faculty supervision. Written report(s) required.
Offered every semester. 3 credits.

PS 410 Seminar in Developmental Psychology

Prerequisites: PS 101, PS 210 or PS 215

Patterns of physical, mental and emotional development are explored with emphasis on independent work.
Offered every year. 3 credits.

PS 435 Clinical Psychology

Prerequisites: PS 101, PS 335

Practical issues, methods and techniques of current psychotherapies with emphasis on psychoanalytic, client-centered, and behavioral approaches.
Offered every year. 3 credits.

PS 460 Advanced Industrial/Organizational Psychology

Prerequisites: PS 101, PS 360, any two of PS 250, PS 340, PS 350, PS 385

An in-depth exploration of selected topics from the field of Industrial/Organizational Psychology.
Offered every year. 3 credits.

PS 480 Advanced Research Methods

Prerequisites: PS 101, PS 205, PS 275, PS 307

Laboratory procedures and techniques on an advanced level applied to selected independent projects.
Offered every 3 years. 3 credits.

PS 485 Psychobiology of Mental Disorders

Prerequisites: PS 101, PS 380

Human brain behavior relationships; neurological correlates of attention, cognition, perception, consequences of damage upon behavior.
Offered every 2 years. 3 credits.

PS 492 Seminar in Mental Health

Prerequisites: PS 101, PS 330, PS 335 and either PS 340 or PS 435

This capstone seminar emphasizes knowledge and experiential skill-building necessary for entry into the field of Mental Health Services.
Offered every year. 3 credits.

PS 499: Honors Thesis

Prerequisites PS 101, PS 205, PS 275, PS 307, Concurrent registration in PS 407, Consent of Instructor

Students participate in a seminar, complete an ongoing Honors Project, and prepare a thesis and summary poster for presentation.
Offered in spring. 1 credit

Sociology

Department of Sociology

Faculty

Rahim Al-Kaleem, Instructor (2009)
B.S., M.S., New Hampshire College

Francis L. Brooker, Associate Professor (1970)
A.B., Brandeis University; M.A., Northeastern University

Corey W. Dolgon, Professor (1997)
B.A., Boston University; M.A., Baylor University; Ph.D., University of Michigan

Matthew Johnsen, Associate Professor (2007), Department Chair
A.B., Dartmouth College, Hanover, NH; M.S., New Hampshire College, Manchester; Ph.D., North Carolina State University, Raleigh

Fortunata S. Makene, Assistant Professor (2007)
B.A., University of Dar Es Salaam, Tanzania; M.S., St. Cloud State University, Minnesota; Ph.D., University of Minnesota, Twin Cities

Joyce Mandell, Assistant Professor (2009)
B.A., M.A., Ph.D., Boston College

The sociology department strives to help its students develop insights about the workings of the social world and the influence of social structure. Its goal involves not just understanding the world, but working to change it. The departmental curriculum aims to help students uncover root causes of social problems and refine their personal understanding of social responsibility and economic justice. The sociology department embraces the goals of personal, community, and global citizenship. Ultimately, the department strives to provide guidance and teaching designed to help students live better lives in an atmosphere of mutual respect.

As a department engaged in public sociology, faculty strive to teach in ways that stress critical thinking joined with action, to advise and mentor students to prepare for lifelong learning and meaningful careers, to encourage students and faculty to collaborate with peers and partners in the community and contribute to the field, and to engage in service to prepare sociology majors to act in complex settings at home and at work, in their communities and the world.

Admission Requirements: Admission to the Sociology major is based on maintaining acceptable grades in the general foundation requirements and interest in the field of sociology. Interested persons may contact the Chair of the Sociology Department for further information. Upon admission, each major is assigned an advisor and receives an orientation in sociology.

Requirements for a Major in Sociology: 30 credits including:

SO 100	Introduction to Sociology
SO 270	Social Theory I
SO 275	Social and Behavioral Statistics
SO 280	Research Methods of Sociology

A maximum of two courses at the 100 level
A minimum of three courses at the 300 and/or 400 level

All courses taken beyond the minimum requirements will be credited as electives.

Requirements for a Minor: 18 credits including:

SO 100	Introduction to Sociology or
SO 110	Cultural Anthropology

All prerequisites for 300 and 400 level courses must be met if the student wishes to elect courses at these levels.

Sociology Courses

For information on the Liberal Arts and Sciences Curriculum (LASC), see page 36

SO 100 Introduction to Sociology

LASC—Human Behavior and Social Processes

Introduction to the scientific study of social life through the identification and analysis of regularized patterns of human behavior and relationships.
Offered every year. 3 credits.

SO 110 Cultural Anthropology

Cross cultural analysis of the human capacity, for adaptation and technological and ideological development. Significant field studies will be examined.
Offered every year. 3 credits.

SO 130 Race, Ethnicity and Gender

LASC—Diversity Across the Curriculum

An introduction to dominant-minority group relations through the investigation of the patterns and dynamics of differentiation, inequality and discrimination.
Offered every 3 years. 3 credits.

SO 190 Sport and Society

Analysis of sport as a social system. The implication of sport within interrelational contexts of other social systems.
Offered every 2 years. 3 credits.

SO 193 Special Topics in Sociology for First-year Students

All "193" classes are approved for LASC but may vary by section. See current course listing for specific LASC area approval.

Introductory level course covering topics of special interest to first-year students. Offered only as a First-year Seminar.
Offered every year. 3 credits.

SO 199 Special Topics

Introductory level topics. Topic announced at pre-registration.

Offered every 3 years. 3 credits.

SO 200 Contemporary Social Problems

LASC—Human Behavior and Social Processes

Prerequisite: SO 100 or SO 110

Analysis of social, political, urban, and industrial changes which have introduced specific problems into contemporary society.
Offered every year. 3 credits.

SO 205 Issues in American Society

Prerequisite: SO 100

Identification and analysis of current social issues facing contemporary American society, and critique of policies and programs designed to resolve these issues.
Offered every 2 years. 3 credits.

SO 215 Medical Sociology

LASC—Human Behavior and Social Processes; Individual and Community Well-being

Prerequisite: SO 100 or SO 110

The structure of health care delivery systems and role interaction between levels of health care personnel, patients, and families of patients.
Offered every year. 3 credits.

SO 220 Sociology of the Family

LASC—Human Behavior and Social Processes

Prerequisite: SO 100 or SO 110

A comparative approach to the study of family systems with emphasis on the changing patterns of family life.
Offered every year. 3 credits.

SO 225 Family in Middle Eastern Societies

Prerequisite: SO 100

Study of family systems in the Middle East and the forces of change affecting traditional family patterns.
Offered every 3 years. 3 credits.

SO 230 Political Sociology

Prerequisite: SO 100 or SO 110

Foundations of social movements in political phenomena, social conditions and emerging political institutions; the structural basis of social change and politics.
Offered every 3 years. 3 credits.

SO 235: Music and Social Change

LASC—Creative Arts, Human Behaviors and Social Processes

Using case studies, social theory and historical materials, this course explores the role of music in social change.
Offered every 3 years: 3 credits.

SO 240 Sociology of Education

Prerequisite: SO 100 or SO 110

Study of modern educational systems, emphasizing the social, political and economic factors that influence its organization and its functions.
Offered every 2 years. 3 credits.

SO 250 Sociology of Religion

LASC—Human Behavior and Social Processes; Individual and Community Well-being; Diversity Across the Curriculum

Prerequisite: SO 100 or SO 110

A cross-cultural comparative study of the nature of religious institutions as systems of socially determined and socially relevant beliefs and practices.
Offered every 2 years. 3 credits.

SO 255: Sociology of Disability

LASC—Human Behavior and Social Processes; Individual and Community Well-being; Diversity Across the Curriculum

Using theory and practical application, this course explores the impact of impairment and disability within a societal context.
Offered every 2 years: 3 credits

SO 270 Social Theory I

Prerequisite: SO 100 or SO 110

Fundamental concepts and intellectual traditions, especially the contributions of Comte, Spencer, Marx, Toennes, Durkheim, and Simmel.
Offered every year. 3 credits.

SO 275 Social and Behavioral Statistics

Prerequisites: SO 100 and any 200 Sociology Course; SO 280 recommended

Data tabulation; graphing; measurement of central tendency, variability, and correlation; hypothesis testing applied to psychological and sociological data. Hand and computer analysis.
Offered every year. 3 credits.

SO 280 Research Methods of Sociology

Prerequisite: SO 100 or SO 110

An analysis of the research function in sociology; the conduct of research appropriate to undergraduate students; the formal presentation of research papers.
Offered every year. 3 credits.

SO 299 Special Topics

Prerequisite: SO 100

Intermediate level topics. Topic announced at pre-registration.

Offered every 3 years. 3 credits.

SO 300 Social Change

Prerequisites: Two courses at 200-level

A study of the conditions, patterns, and consequences of social transformations with emphasis on institutional and individual patterns of adjustment and adaptation.
Offered every 3 years. 3 credits.

SO 305 Applied Sociology and Community Research

Prerequisites: SO 100, SO 280; SO 275 recommended

Explores the theory and methods of applied sociology, including ethnographic, institutional, participatory research techniqes in community settings.
Offered every 3 years. 3 credits.

SO 310 Formal Organizations

Prerequisites: Two courses at 200-level

The structure and function of, and communications systems within, formal and complex organizations; primary focus on theoretical aspects of organizations.
Offered every 3 years. 3 credits.

SO 315 Collective Behavior

Prerequisites: Two courses at 200-level

Processes by which new norms and forms of social organization emerge from group behavior, aggregate behavior, and social movements.
Offered every 3 years. 3 credits.

SO 330 Criminology

Prerequisites: Two courses at 200-level

Theoretical perspective on crime, criminals and the social aspects of interrelationships within, and between the components of the criminal justice system.
Offered every year. 3 credits.

SO 335 Juvenile Delinquency

Prerequisites: Two courses at 200-level

Dynamics of small group involvement and other environmental influences in the shaping of an individual's personality.
Offered every 3 years. 3 credits.

SO 340 Social Psychology

Prerequisites: Two courses at 200-level

Dynamics of small group involvement and other environmental influences on the shaping of an individual's personality.
Offered every year. 3 credits.

SO 345 Sociology of Deviance

Prerequisites: Two courses at 200-level

Study of the nature and consequences of deviant behavior with emphasis on socialization, social relationships, and patterns of social control.
Offered every 3 years. 3 credits.

SO 350 Social Stratification

Prerequisites: Two courses at 200-level

Investigation of the recurrent patterns of social differentiation, social ranking, and the unequal distribution of rewards.
Offered every 2 years. 3 credits.

SO 360 Urban Sociology

Prerequisites: Two courses at 200-level

A cross-cultural study of urban social systems and the phenomena and problems connected with the planning process.
Offered every 2 years. 3 credits.

SO 375 Contemporary Social Theory

Prerequisites: SO 270

Review of sociological theories, analytical tools, and conceptual schemes prevalent in contemporary debate and consensus.
Offered every 3 years. 3 credits.

SO 400 Independent Study

Prerequisites: Four prior courses in sociology and consent of instructor/chair.

For advanced sociology majors only; topic to be approved by an independent study advisor.
Offered every year. 1-6 credits.

SO 410 Field Work

Prerequisites: Four prior courses in sociology and consent of instructor/chair.

Data collection based on participant observation within a social service organization; assignment approval by field work advisor.
Offered every year. 1-6 credits.

SO 420 Seminar in Sociology

Prerequisites: Four prior courses in sociology and consent of instructor/chair.

Advanced study topics in selected areas of sociology; announcement made at pre-registration time.
Offered every 3 years. 1-3 credits.

Español

Spanish
Department of World Languages

Faculty

Guillermina Elissondo, Professor (1999)
B.A., Universidad Católica de Mar del Plata, Argentina; M.A., Michigan State University; Ph.D., University of North Carolina – Greensboro

Judith Jeon-Chapman, Professor (1993)
B.A., College of St. Benedict; M.A., Ph.D., University of Washington

Patricia A. Marshall, Associate Professor (2004), Department Chair
B.A., Colby College; M.A., Ph.D., Brown University

Ana Pérez-Manrique, Assistant Professor (2006)
B.A., Universidad de Málaga, Spain; M.A., University of South Carolina; Ph.D., Florida State University

Juan Orbe, Professor (1996)
B.A., Universidad Nacional de La Plata, Argentina; M.A., Ph.D., Michigan State University

Courses in Spanish are designed for students whose interests and career plans have an international or multi-ethnic focus. Students who major or minor in a language will develop listening, speaking, reading, and writing fluency and will study the culture, history and literature of the people who use the language.

Alpha Mu Gamma, a national honor society in foreign languages, recognizes excellence in the study of foreign languages. Any Worcester State student who receives two "A's" in Spanish, or two "A's" in French, at any level and who has a 3.0 cumulative GPA is eligible to join. Application for membership is in early February. Contact Professor Judith Jeon-Chapman.

The Major in Spanish: The major in Spanish is designed to offer students the opportunity to consolidate their study of the language with a related field of study. Students who major in Spanish can choose to concentrate on 1) the Standard Spanish Major, 2) K-12 Teaching Certification in Spanish or 3) Spanish for the Professions. All of these programs have been configured to maximize the potential of the student in today's professional climate as well as to prepare the student for admittance into graduate programs at other institutions. Students who major in Spanish will develop fluency in listening, speaking, reading and writing skills and will study the culture, history and literature of Spain and the Americas.

Students are strongly encouraged to take a Placement Exam in Spanish at the Academic Success Center. Study-Abroad opportunities are available for language study in several Spanish-speaking countries.

Information on the Spanish Clinic, Spanish Club, and Spanish Table can be found at the Department of World Languages website.

Requirements for a Major in Spanish: 36 credits including:

SP 210-211	Intermediate Spanish courses (6 credits maximum: These courses may be waived by oral and/or written examination)
SP 321	Advanced Spanish Composition I *
SP 322	Advanced Spanish Composition II
SP 323	Advanced Spanish Conversation I **
SP 326	Spanish for the Professions
SP 331	Spanish Civilization
SP 332	The Hispanic World Today or SP 333 The Hispanic Presence in the United States

Spanish Literature classes (6 credits minimum)
Spanish Electives in Advanced Language, Civilization or Literature

Students must demonstrate competency in a second foreign language at the **elementary** level.

* *Required of all students unless exempted by the Department of World Languages.*

** *This course is a required course for all non-native Spanish speakers.*

(Students with advanced knowledge of Spanish should begin at 300-level)

Concentration in Spanish/Education: (36 credits) Students who wish to receive Teacher Certification in Spanish must complete all of the requirements for the Standard Spanish Major as well as the requirements established by the Education Department. The course of study which leads to teaching certification is in Secondary Education. In addition, students pursuing a Teaching Certificate in grades 5-12 must complete: **SP 355 The Effective Teaching of a Foreign Language as well as *one additional* literature course.**

Students must also demonstrate competency in a second foreign language at the intermediate level.

Concentration in Spanish for the Professions: (36 credits)

This concentration must be completed in conjunction with a minor or major in another field. The concentration in Spanish for the Professions is recommended for students with a second major or minor for whom a college-level command of the language significantly enhances opportunities for graduate school and/or employment. This course of study must be approved by the department.

Required courses:

SP 210-211	Intermediate Spanish courses (6 credits maximum: These courses may be waived by oral and/or written examination)
SP 321	Advanced Spanish Composition I* **and/or** SP 322 Advanced Spanish Composition II
SP 323	Advanced Spanish Conversation I**
SP 326	Spanish for the Professions
SP 327	Projects and Issues in Spanish for the Professions
SP 331	Spanish Civilization
SP 332	The Hispanic World Today or SP333 The Hispanic Presence in the United States

Spanish Literature classes (3 credits minimum)
Internship in Spanish (3 credits minimum)

Spanish Electives in Advanced Language, Civilization, Literature, Internship or Special Topics in Spanish for the Professions

There is no second foreign language requirement for this concentration.

**Required of all students unless exempted by the Department of World Languages.*

***This course is a required course for all non-native Spanish speakers.*

Requirements for a Minor in Spanish: 18 credits including:
SP 100-299, beginning and intermediate courses (12 credits maximum)
SP 300-499, advanced courses (6 credits minimum)

(Students with advanced knowledge of Spanish should begin at 300-level)

Spanish Courses

For information on the Liberal Arts and Sciences Curriculum (LASC), see page 36

SP 101 Beginning Spanish I

LASC—Thought, Language and Culture

Basic oral and written proficiency for daily communication; may be taken as a self-contained unit or as a basis for further development. Audio-visual method.
Offered every year. 3 credits.

SP 102 Beginning Spanish II

LASC—Thought, Language and Culture

Prerequisite: SP 101 or equivalent

Continuation of SP 101.
Offered every year. 3 credits.

SP 191 Special Topics in Spanish

An introductory level courses in Spanish on current or specialized topics.
Offered every year. 3 credits.

SP 193 Special Topics in Spanish for First-year Students

All "193" classes are approved for LASC but may vary by section. See current course listing for specific LASC area approval.

An introductory level course covering topics of special interest to first-year students. Offered only as a First-year Seminar.
Offered every year. 3 credits.

SP 210 Intermediate Spanish I

LASC—Thought, Language and Culture

Prerequisite: SP 102 or equivalent

Conversational patterns, idioms, dialogues, and special vocabularies for daily life situations.
Offered every year. 3 credits.

SP 211 Intermediate Spanish II

LASC—Thought, Language and Culture

Prerequisite: SP 210 or equivalent

Continuation of SP 210.
Offered every year. 3 credits.

SP 321 Advanced Spanish Composition I

LASC—Thought, Language and Culture

Prerequisite: Two SP 200 level courses

Facility in prose reading and writing; study of style of selected authors; variety of expression through word discrimination, and advanced grammatical structures.
Offered every year. 3 credits.

SP 322 Advanced Spanish Composition II

LASC—Thought, Language and Culture

Prerequisite: SP 321 or equivalent

Continuation of SP 321.
Offered every year. 3 credits.

SP 323 Advanced Spanish Conversation I

LASC—Thought, Language and Culture

Prerequisite: Two SP 200 level courses.

Intensive conversational practice for improving intonation, pronunciation, fluency, review of language usage. This course is for non-native Spanish speakers only.
Offered every year. 3 credits.

SP 324 Advanced Spanish Conversation II

Prerequisite: SP 323 or equivalent.

Continuation of SP 323.
Offered every year. 3 credits.

SP 326 Spanish for the Professions

LASC—Global Perspectives; Thought, Language and Culture

Prerequisite: SP 321, SP 323 or instructor's approval.

Intensive practice with language and documents used in private and public sectors including business, medicine, communication, education and social services.
Offered every year. 3 credits.

SP 327 Projects and Issues in Spanish for the Professions

Prerequisite: SP 321, SP 323, SP 324 or instructor's approval.

Close study of selected projects and bicultural issues for Spanish professionals.
Offered every year. 3 credits.

SP 331 Spanish Civilization

Prerequisite: Two SP 200 level courses

A historical survey of Spanish social, cultural, and political life. Conducted in Spanish.
Offered every year. 3 credits.

SP 332 The Hispanic World Today

LASC—Global Perspectives; Diversity Across the Curriculum

Prerequisite: Two SP 200 level courses

Social, economic and political institutions; value systems and customs. Conducted in Spanish.
Offered every 2 years. 3 credits.

SP 333 The Hispanic Presence in the United States

Prerequisite: Two SP 200 level courses

Sociocultural study of Hispanics in the United States, with a focus on major contemporary issues. Conducted in Spanish.
Offered every 2 years. 3 credits.

SP 341 Readings in Spanish Literature

Prerequisite: SP321, SP 323, SP 324 or instructor's approval.

Selected masterpieces from Middle Ages to present; social, cultural, and stylistic features of different periods. Recommended as a first course in Spanish literature.
Offered every 3 years. 3 credits.

SP 342 Introduction to Latin American Literature I

Prerequisite: SP 321, SP 323, SP 324 or instructor's approval.

Study of the literature produced in Latin America from the pre-Columbian era until the first wars of independence.
Offered every 3 years. 3 credits

SP 343 Poetry and Theatre of Spain's Golden Age

Prerequisite: SP 321, SP 323, SP 324 or instructor's approval.

Study of the poetry and drama created during the Renaissance and Baroque periods, known as the Golden Age of Spanish letters.
Offered every 3 years. 3 credits

SP 348 Contemporary Spanish Literature

Prerequisite: SP 321, SP 323, SP 324 or instructor's approval.

Literary works from the generation of 1898 to the present.
Offered every 3 years. 3 credits.

SP 349 Spanish-American Literature

Prerequisite: SP 321, SP 323, SP 324 or instructor's approval.

Representative works from South and Central American authors from the colonial period to the present.
Offered every 3 years. 3 credits.

SP/ED 355 Effective Teaching of a Foreign Language

Prerequisite: SP 321, SP 323, SP 324, ED 251, 270, 351 or 352 or instructor's approval.

Examines and evaluates effective teaching techniques and strategies as well as second-language acquisition theory for middle/secondary foreign language classrooms.
Offered every 3 years. 3 credits

SP 390 Spanish for Native Speakers

This course will explore contemporary issues as a basis for further development of the Spanish language skills of native speakers.
Offered every 3 years. 3 credits

SP 401 Advanced Study: Special Topics

Prerequisite: For advanced students

Special topics in language, literature, civilization or field work of mutual interest to student and instructor.
Offered every year. 3 credits.

SP 402 Independent Study in Spanish

Prerequisite: Consent of instructor

Study of a special topic. Both content and eligibility are subject to departmental guidelines and approval.
Offered every year. 1-6 credits.

SP 403 Teaching Assistantship in Spanish

Prerequisite: Consent of instructor

Teaching Assistants in Spanish will regularly attend the beginning or intermediate-level Language classes to which they are assigned to assist the professor.
Offered every year. 3 credits.

SP 475 Internship in Spanish

Prerequisite: Consent of instructor and department

Provides majors practical experience in areas where their speaking, reading, and writing skills may be applied.
Offered every year. 3 credits.

Note: *Courses in other foreign languages such as German, Latin, Russian, Chinese and Hebrew are offered when demand warrants and staffing permits.*

Theatre

Department of Visual and Performing Arts

Faculty

John H. Hood, Associate Professor (2004)
B.F.A., Arizona State University; M.F.A., University of Minnesota

Sam O'Connell (2010)
B.A., M.A., Washington University; Ph.D., Northwestern University

Adam Zahler, Assistant Professor (2007)
B.A., University of Vermont; M.F.A., University of Virginia

The theatre program offers courses in theatre history, children's theatre, design and performance. Mainstage productions, some in cooperation with the music program, are produced on a regular basis. Advanced students are encouraged to stage their own laboratory shows and also to intern with local theatre companies. The theatre faculty teaches interdisciplinary courses with faculty from Art and Music.

Requirements for a Major
The newly instituted Interdisciplinary Visual and Performing Arts Major offers concentrations in Art, Music, or Theatre. *See Visual and Performing Arts Department.*

Requirements for Minor in Theatre: 18 credits comprised of the following courses: TH 191 Introduction to the Theatre; TH 245 Acting I; TH 275 Introduction to Stagecraft and Design; and TH 321 Rehearsal and Performance, and two other 3 credit-hour theatre classes.

Theatre Courses

For information on the Liberal Arts and Sciences Curriculum (LASC), see page 36

TH 135 Oral Interpretation of Literature

Techniques of reading aloud and staging non-dramatic literature; e.g., short stories, poetry, etc. The student analyzes selections and then performs them in class.
Offered every year. 3 credits.

TH 191 Introduction to Theatre

LASC—Creative Arts

An overview of live performance, with the emphasis on audience appreciation. Performance arts and crafts are examined.
Offered every year. 3 credits.

TH 193 Special Topics in Theatre for First-year Students

All "193" classes are approved for LASC but may vary by section. See current course listing for specific LASC area approval.

Introductory level course covering topics of special interest to first-year students. Offered only as a First-year Seminar.
Offered every year. 3 credits.

TH 226 Script Analysis

Script analysis for theatre artists. How to take a script from initial reading to production
Offered every year. 3 credits.

TH 236 History of Theatre I

LASC—Creative Arts; Thought, Language and Culture

Survey of world theatre from Golden Age of Athens to Restoration England, including brief overview of Asian theatre.
Offered every year. 3 credits.

TH 237 History of Theatre II

LASC—Creative Arts; Thought, Language and Culture

Survey of western theatre from eighteenth to twentieth century, with reference to roots and developments in other world cultures.
Offered every year. 3 credits.

TH 245 Acting I

LASC—Creative Arts

Prerequisite: TH 191

Basic acting theory and practice. Students present brief monologues and scenes on stage.
Offered every year. 3 credits.

TH 246 Voice and Movement

Prerequisite: TH 191, TH 245

Training to strengthen the natural voice, develop diction, learn period movement and develop spatial awareness on and off stage.
Offered every year. 3 credits.

TH 270 History of American Entertainment I

An historical survey of American popular entertainments from the Colonial period through the end of the nineteenth century.
Offered every 2 years. 3 credits.

TH 271 History of American Entertainment II

An historical survey of American popular entertainments from the rise of film and radio through the great American musicals.
Offered every 2 years. 3 credits.

TH 272 History of Costume

The history of clothing from ancient times to the present. Lecture/discussion and a research project on a chosen era or culture.
Offered every two years. 3 credits.

TH 275 Introduction to Stagecraft and Design

Fundamentals of theatre production including scenic, costume and lighting, focused on the crafts and technology behind the scenes. 30-hour practicum required.
Offered every year. 3 credits.

TH 276 Costume and Makeup for Performance

Basics of historical research and design, applicable to both stage and screen work. Practicum in constructing costumes and applying makeup.
Offered every 3 years. 3 credits.

TH 290 Theatre for Young Audiences

Organization of children's theatre, script selection, visual design, rehearsal and performance. Investigation of creative drama as a teaching tool in elementary education.
Offered every year. 3 credits.

TH 292 Creative Dramatics

Principles and techniques of leading improvised dramatic activities with children and adults. Involves sensory awareness, imagination, movement, and story dramatizations.
Offered every year. 3 credits.

TH 321 Rehearsal and Performance

LASC—Creative Arts

Public performance of full-length stage productions under faculty direction. Students assume performance and/or production "roles" as described in departmental manual.
Offered every year. 3 credits.

TH 335 History of American Theatre

LASC—Creative Arts; United States and Its Role in the World

The history of American theatre from its beginnings to the present day.
Offered every two years. 3 credits.

TH 345 Acting II

Prerequisite: TH 191, TH 245

Further development of basic acting skills with emphasis on stage and acting technique.
Offered every year. 3 credits.

TH 348 Stage Combat

Prerequisite: TH 191, TH 245

Training in armed and unarmed combat for the stage. Emphasis will be placed on safety in the choreography of stage fighting.
Offered every year. 3 credits.

TH 350 Playwrighting

Prerequisite: EN 102

Writing for the stage, both theory and practical exercises. Students complete a one-act play by the end of the course.
Offered once a year. 3 credits.

TH 355 Theatre Practicum

Practical work on Theatre production in various areas including acting, design, stage management, construction, etc.
Offered every year. 1 credit

TH 360 Scenic Design for Theatre

Prerequisite: TH 275

Scenic Design for Theatre will include research, drafting, drawing and rendering, model building, and presentation of scenic designs for assigned plays.
Offered every year. 3 credits.

TH 370 Costume Design for Theatre

Prerequisite: TH 275

Conceptualization, collaboration, research, figure drawing and rendering, swatching, organization, and presentation of costume designs for assigned plays.
Offered every year. 3 credits.

TH 380 Directing

Prerequisite: TH 245, TH 191

Script selection, casting, scene analysis, blocking, rehearsal techniques, and other concerns of the theatrical director. Students direct short scenes and short plays.
Offered every 2 years. 3 credits.

TH 390 Lighting Design for Theatre

Prerequisite: TH 275

Study and exercises in conceptualization, previsualization, collaboration, design presentation, qualities and functions of light, drafting the light plot, and control of theatrical lighting.
Offered every year. 3 credits.

TH 399 Special Topics in Theatre

Will include study of topics on an as needed basis, (i.e., a course in conjunction with a producition, or a course for advanced students who wish to pursue further study.
Offered at the discretion of the department. 3 credits.

Urban Studies
Department of Urban Studies

Faculty

Lisa Krissoff Boehm, Professor (2000)
B.A., Northwestern University; M.A., The University of Chicago;
Ph.D., Indiana University

Steven H. Corey, Professor (1995), Department Chair
B.A., M.A., University of Rhode Island; Ph.D., New York University

Anne W. Gathuo, Associate Professor (2005)
B.Ed., Kenyatta University; M.B.A., University of Nairobi;
Grad Certificate, M.S., Ph.D., University of Massachusetts, Boston

Maureen E. Power, Professor (1975)
A.B., Emmanuel College; M.S.W., Ph.D., Brandeis University

Joyce L. Mandell, Assistant Professor (2009)
B.A., M.A., Ph.D., Boston College

The goal of the Department of Urban Studies is to foster an understanding of the complex challenges that face our increasingly urban and metropolitan world. The field of Urban Studies uses an interdisciplinary approach to understanding metropolitan life. It immerses students in an academically rigorous and personally challenging course of study that helps them discover who they are, and how they can become change agents in our global society. Urban Studies fosters the development of critical thinking skills necessary to function effectively in today's competitive world. Department graduates enjoy outstanding careers in a wide variety of occupations, such as, public administration, non-profit management, urban planning, business, law, human services, health care management, housing management, gerontology and social work.

Requirements for the Major: 36 credits. All Urban Studies majors are required to take the following courses:

UR 101	Introduction to Urban Studies
UR 212	American Metropolitan Evolution **or**
UR 301	Cities and Suburbs
UR 213	Human Identity and the Urban Environment
UR 320	Human Needs and Social Policy
UR 401	Research Seminar in Urban Studies

Students are encouraged to take community based experiential courses, including practicum and internship. These course credits may not exceed a total of 12, three of which may count towards the major. Students may take the internship after completing 18 credits in the major. The practicum can be taken at any time, upon permission of department.

Requirements for a major in Urban Studies, Concentration in Public Administration and Planning: The required courses for the major, 3 credits in experiential learning (internship or practicum), and 3 of the following:

UR 201	Analysis of Urban Systems
UR 310	Power, Politics, and Decision-Making in Urban Communities
UR 311	Community Politics and Policies
UR 340	Urban Housing Dilemma
UR 360	Environmental Systems and Public Policy
UR 361	Public Policy and Environmental Issues
UR 370	Structure and Function of Urban Organizations
UR 380	Public Policy and Cultural Diversity
UR 430	Seminar in Current Urban Problems

Requirements for a Major in Urban Studies, Concentration in Social Work and Social Policy: The required courses for the major, 3 credits in experiential learning (internship or practicum), and 3 of the following:

UR 305	Group Conflict in the Urban Community
UR 306	Interviewing and Counseling Techniques
UR 321	Social Work in Urban Society
UR 325	Social Casework in the Urban Setting
UR 341	Urban Health and Social Policy
UR 350	Urban Youth in American Society
UR 351	Public Policy and Youth Services
UR 380	Public Policy and Cultural Diversity

Requirements for a major in Urban Studies, Concentration in Intergenerational and Community Service: The required courses for the major, 3 credits in experiential learning (internship or practicum), and 3 of the following:

UR 202	Aging and Metropolitan Society
UR 216	Women and Aging
UR 321	Social Work in Urban Society
UR 344	A Society for All Ages
UR 350	Urban Youth in American Society
UR 351	Public Policy and Youth Services
UR 352	Public Policy for an Aging Society

Requirements for a Major in Urban Studies with a concentration in Gerontology: the required courses for the major

PS 220	Psychology of Aging

and 3 of the following :

UR 202	Aging in Metropolitan Society
UR 216	Women and Aging in the Urban Environment
UR 341	Urban Health and Social Policy
UR 352	Policy Planning for an Aging Society
	Aging Policy for a Third Age ***(offered as part of the Consortium Gerontology Studies Program)***

Requirements for a Minor: 18 credits including the following

UR 101	Introduction to Urban Studies
UR 212	American Metropolitan Evolution
UR 213	Human Identity and the Urban Environment
Three additional UR 300-level courses	

Requirements for a Minor in Intergenerational Studies and Community Service: 18 credits

UR 101	Introduction to Urban Studies
UR 320	Human Needs and Social Policy
UR 344	A Society for All Ages: Intergenerational Community Service
UR 400	Practicum in Urban Studies
UR 216	Women and Aging **or**
UR 202	Aging and Metropolitan Society
UR 350	Urban Youth in American Society **or**
UR 351	Public Policy and Youth Services

Urban Studies Courses (Undergraduate)

For information on the Liberal Arts and Sciences Curriculum (LASC), see page 36

UR 101 Introduction to Urban Studies

LASC—Human Behavior and Social Processes; United States and Its Role in the World

A broad contextual overview of urban life that examines the relationship of people to their environment from an interdisciplinary perspective.
Offered every year. 3 credits.

UR 103 Introduction to Women's Studies

This course uses a variety of academic disciplines to study the situation of women around the world.
Offered every 2 years. 3 credits.

UR 191 Special Topics in Urban Studies

This introductory level course will cover topics in Urban Studies which are of special interest to first-year students.
Offered every year. 3 credits.

UR 193 Special Topics in Urban Studies for First-year Students

All "193" classes are approved for LASC but may vary by section. See current course listing for specific LASC area approval.

Introductory level course covering topics of special interest to first-year students. Offered only as a First-year Seminar.
Offered every year. 3 credits.

UR 201 Analysis of Urban Systems

Analysis of activities, programs, and policies designed to sustain and enhance the livability of individuals in an urban environment.
Offered every 2 years. 3 credits.

UR 202 Aging in Metropolitan Society

An introduction to gerontology stressing the social, economic and political aspects of aging in the urban environment.
Offered every 2 years. 3 credits.

UR 212 American Metropolitan Evolution

LASC—United States and Its Role in the World; Writing Across the Curriculum

Prerequisite: UR 101

Development of metropolitan America from a multi-disciplinary approach with emphasis upon dynamics of urban growth, internal development of cities, immigrations, socioeconomic stratification, metropolitanization and problems deriving from growth.
Offered every year. 3 credits.

UR 213 Human Identity and the Urban Environment

Prerequisite: UR 101

Study of factors affecting identity in contemporary urban settings including race, ethnicity, class, age, and sex categories and roles.
Offered every year. 3 credits.

UR 215 Information Management in Urban Studies

Prerequisite: UR 101

Designed to familiarize students with various methods of managing, creating and reporting information.
Offered every 3 years. 3 credits.

UR 216 Women and Aging in the Urban Environment

Investigation of the Aging process for women in urban society, focusing on their great longevity, lower income status, and major caregiving role.
Offered every 2 years. 3 credits.

UR 230 Technology, Public Policy, and Urban Society

Examination of high-technology and its impact on urban society; privacy, ethics, intellectual, property rights, sense of community, and access to information and services.
Offered every year. 3 credits.

UR 240 Introduction to Qualitative Research Methods for the Social Sciences

LASC—Human Behavior and Social Processes; Writing Across the Curriculum

This introductory course provides and overview of the research process, and introduces students to commonly used qualitative methods in the social sciences.
Offered every year. 3 credits.

UR 245 Introduction to Survey Research Method for Social Science

LASC—Human Behavior and Social Processes

This introductory course provides an overview of the research process and introduces students to survey research methodology.
Offered every year. 3 credits.

UR 290 Gender and the City

LASC—Global Perspectives; Human Behavior and Social Processes; Writing Across the Curriculum

Exploration of ways in which gender, both male and female, structures responses of individuals to urban life and spaces.
Offered every 2 years. 3 credits.

UR 301 Cities and Suburbs

Prerequisite: UR 101

Multidisciplinary study of city-suburban growth patterns and problems both of the past, and those that hamper metropolitan cooperation and affect the quality of life of both city and suburban residents and businesses.
Offered every 2 years. 3 credits.

UR 305 Group Conflict in the Urban Community

Prerequisite: UR 101

Study of conflict and its resolution in contemporary urban settings. Personal, small group, and societal strategies for conflict resolution will be explored.
Offered every 2 years. 3 credits.

UR 306 Interviewing and Counseling Techniques

Prerequisite: Consent of instructor

Investigation of skills and process of interviewing and counseling with emphasis upon theory and practice, participant exercises, and development of helping skills and effective counseling relationships.
Offered every 3 years. 3 credits.

UR 310 Power, Politics, and Decision-Making in Urban Communities

Prerequisite: UR 101 or permission of instructor

Exploration from multi-disciplinary approach of social power and its relation to decision-making in urban communities. Emphasis on theories of power, understanding research methodologies, and policy implications.
Offered every 3 years. 3 credits.

UR 311 Community Politics and Policies

Prerequisite: UR 101 or permission of instructor

Political behavior and perceptions in cities and towns from a multidisciplinary perspective with emphasis on how policy is initiated, developed and implemented in various governmental forms.
Offered every 3 years. 3 credits.

UR 320 Human Needs and Social Policy

Analysis of human needs as they change over a life span; why needs go unmet, and the role of social policy in meeting needs.
Offered every year. 3 credits.

UR 321 Social Work in the Urban Society

Prerequisite: UR 101

Overview of approaches used by social work professionals in assessing and meeting needs, including casework, community organization and planning.
Offered every 2 years. 3 credits.

UR 325 Social Casework in the Urban Setting

Prerequisite: UR 101

Introduction to various social work approaches—client-centered, task-centered, Gestalt, Carhuff and reality therapy; role playing and counseling simulations utilized.
Offered every 2 years. 3 credits.

UR 330 Justice in the Urban Society

Prerequisite: UR 101

Theoretical perspectives on the mission of the criminal justice system and the daily operation of its sub- components.
Offered every 3 years. 3 credits.

UR 331 Crime and the City

Prerequisite: UR 101

Investigation of crime in contemporary urban society and the social, legal, economic, and cultural strategies for dealing with crime and deviance.
Offered every 2 years. 3 credits.

UR 340 Urban Housing Dilemma

Prerequisite: UR 101

Analysis of the factors that shape the nature, location, and supply of urban housing with special focus on federal, state and local policies.
Offered every 3 years. 3 credits.

UR 341 Urban Health and Social Policy

Prerequisite: UR 101

Analysis of urban health care, with special emphasis on the role of social policy in ensuring health care for all, particularly children and elders.
Offered every 2 years. 3 credits.

UR 344 A Society for All Ages: Intergenerational Community Service

Exploration of the necessary role of community service in civic life with emphasis on harnessing the power of intergenerational programs to address social concerns.
Offered every year. 3 credits.

UR 350 Urban Youth in American Society

Prerequisite: UR 101

Role and problems of youth in urban societies viewed from a variety of social science perspectives with utilization of contemporary music and literature.
Offered every 2 years. 3 credits.

UR 351 Public Policy and Youth Services

Prerequisite: UR 101

Role of theory, attitudes, and public opinion in the formation of policies concerning delinquency with exploration of current practices and innovative strategies.
Offered every 2 years. 3 credits.

UR 352 Policy Planning for an Aging Society

Prerequisite: Consent of instructor

Analysis of current social policies in regard to elders and exploration of ways in which policies need to be altered to meet growing elder needs.
Offered every 3 years. 3 credits.

UR 360 Environmental Systems and Public Policy

Prerequisite: UR 101 or permission of instructor

Examination of urban ecosystems, focusing on land uses designed to effectively utilize water, open space and other natural resources.
Offered every 2 years. 3 credits.

UR 361 Public Policy and Environmental Issues

Prerequisite: UR 101 or permission of instructor

Investigation of the factors that determine the formation of public policy on the environment with consideration of the roles played by state and federal regulatory agencies.
Offered every 2 years. 3 credits.

UR 370 Structure and Function of Urban Organizations

Prerequisite UR 101

Advanced leadership seminar for students interested in pursuing management careers in public and non-profit organizations.

Offered every 3 years

UR 380 Public Policy and Cultural Diversity

Prerequisite: UR 101

This course will examine contemporary policy issues and problems deriving from cultural diversity. These will include areas such as immigration, population, demographics, affirmative action, public assistance, integration, separatism, political correctness, gender equity, and the role of organized religion in contemporary politics.
Offered every 2 years. 3 credits.

UR 401 Research Seminar in Urban Studies

Prerequisite: UR 101

Research skills for urban-based projects including techniques in gathering, analyzing, and reporting data and various forms of field research.
Offered every year. 3 credits.

UR 410 Assigned Research in Urban Affairs

Prerequisite: UR 101

Individual or small group directed research into selected problems and issues in urban affairs.
Offered every 3 years. 3 credits.

UR 411 Assigned Readings in Urban Affairs

Prerequisite: UR 101

Directed readings for students interested in special topics related to their academic program of study.
Offered every 2 years. 3 credits.

UR 421 Selected Topics in Urban Studies

Prerequisite: UR 101

In-depth examination of topical issues challenging the intellectual and creative interests of advanced students in urban studies.
Offered every year. 3 credits.

UR 422 Selected Topics in Gerontology

Prerequisite: Consent of instructor

In-depth examination of topical issues in gerontology which afford the advanced student the opportunity to pursue gerontological research.
Offered every 2 years. 3 credits.

UR 430 Seminar in Current Urban Problems

Prerequisite: UR 101

Individual and group investigation and research of selected and current urban problems.
Offered every 2 years. 3 credits.

UR 432 Demographic Research Seminar

Prerequisite: UR 101

Small group or individual research using various sources in gathering, interpreting, reporting and projecting policy implications of demographic data.
Offered every 3 years. 3 credits.

UR 440 Practicum in Urban Studies

Prerequisite: UR 101

Directed experiential study for advanced students.
Offered every year. Variable credit.

UR 450 Internship in Urban Studies

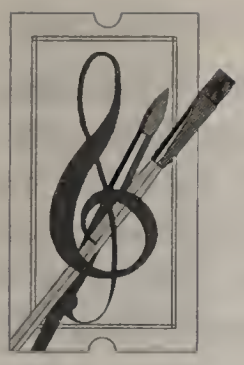
Prerequisites: Completion of 21 credits in Urban Studies

Supervised and intensive semester-long experience in community agencies.
Offered every year. 3-12 credits.

UR 451 Internship Seminar

Prerequisites: Completion of 21 Urban Studies credits or permission of instructor

Exploration of the challenges that emerge as 25 students engage in the professional world (recommended to be taken in conjunction with UR 450 Internship in Urban Studies).
Offered every year. 1 credit.



Visual and Performing Arts, Interdisciplinary

Department of Visual and Performing Arts

Faculty

Michael C. Hachey, Professor (1993), Department Chair
B.F.A., M.F.A., Massachusetts College of Art

John H. Hood, Associate Professor (2004)
B.F.A., Arizona State University; M.F.A., University of Minnesota

Kyle D. Martin, Professor (1998)
B.M., Hardin-Simmons University; M.M., D.M.A., Eastman School of Music

Christie B. Nigro, Professor (1989)
B.M., Syracuse University; M.M., Yale University; Ph.D., University of Massachusetts

Sam O'Connell (2010)
B.A., M.A., Washington University; Ph.D., Northwestern University

Stacey Parker, Assistant Professor (2007)
B.F.A., Alfred University; M.F.A., Rochester Institute of Technology

Robert Sahagian, Professor (1968)
B.M., New England Conservatory of Music; M.M., Ph.D., Michigan State University

Amaryllis Siniossoglou, Associate Professor (2005)
PEP, Royal College of Art, London, England; M.F.A., University of Massachusetts, Amherst; Ecole Nationale Superieure Des Beaux-Arts, Paris, France; Diplome Superieur d' Art Plastique; School of Art, Athens, Greece; Drawing and Painting School, Certificate

Catherine Wilcox-Titus, Assistant Professor (2004)
B.A., University of Toronto; M.S., Simmonds College; M.A., Ph.D., Boston University

Adam Zahler, Assistant Professor (2007)
B.A., University of Vermont; M.F.A., University of Virginia

The visual and performing arts hold an essential place in our society, promoting cultural and economic growth, and fostering creative expression, community experience, and entertainment in a wide variety of media. The VPA Major provides students with coursework in Art, Music, and Theatre, serving as a foundation for interdisciplinary work in the arts. Core courses will promote critical thinking in all three disciplines, and prepare students intellectually and creatively for work on their capstone/senior thesis projects. Students will choose a concentration in Art, Music, or Theatre, taking courses that will provide knowledge, techniques and, models of thinking designed to enhance the creative process. Studies will be applied to the production, performance, and critical study of artistic work.

Concentration in Art

The Art concentration offers a program in the creation of visual art augmented by studies in art history. Courses in design, drawing, painting, printmaking, sculpture, digital arts, and integrated media provide the technical skills and concepts that form the basis for expression in visual art. Existing within the interdisciplinary major, the Art concentration presents extensive involvement in studio art while encouraging creative thinking and artistic production that are informed by and sometimes created with the performing arts of music and theatre.

Concentration in Music

The Music concentration offers a program of study in performance skills, music theory, and music history. Students will develop strong musical literacy, as well as expertise in a particular instrument or voice. By a thorough study of performance skills, music theory, and music history, graduates will be equipped to work as professional musicians or enter graduate programs in various areas of music. While a solid grounding in traditional performance will be stressed, the interdisciplinary nature of the major will encourage activity with artists, actors, directors, poets, and those in other creative fields.

Concentration in Theatre

The Theatre concentration will provide a basis in theatre arts and technical skills, preparing students for graduate level study or entry level work in theatre and related fields. Students will study acting, design, stagecraft and directing, applying those skills to departmental and self-generated productions. A solid grounding in theatre arts will be emphasized, and students will be encouraged to collaborate with those in the visual arts and music, and to explore their own impulses and talents in diverse artistic disciplines.

Requirements for a Major

Minimum requirement for the major is completion of a three course (9 credit) Foundation curriculum, a three course (9 credit) Interdisciplinary Core, and 27 credits in one of three concentrations. Students will declare concentration in Art, Music, or Theatre.

Interdisciplinary Foundation Courses

Foundation in Art	3 credits
AR 112 World Art Survey I	
or	
AR 100 Cross Media Studio	
Foundation in Music	3 credits
MU 100 Music Fundamentals	
or	
MU 102 Applied Music	
or	
MU 115 Music Appreciation	
Foundation in Theatre	3 credits
TH191 Introduction to Theatre	

Interdisciplinary Core Courses

VP 200 Critical Thinking in the Arts	3 credits
VP 300 Interdisciplinary Arts Seminar	3 credits
VP 400 Arts Capstone/ Senior Thesis	3 credits
Foundation and Core Total	**18 credits**

Requirements for the Concentration in Art

In addition to the three Foundation courses and three Interdisciplinary Core courses students will complete nine courses (27 credits) including:

AR 100 Cross Media Studio	3 credits
AR 140 Drawing I	3 credits
AR 117 Visual Design: 2-Dimensions	3 credits
AR 122 Visual Design: 3-Dimensions	3 credits
AR 113 World Art Survey II	3 credits
AR 225 Art Since Mid-Century	3 credits
Additional AR courses*	9 credits
Concentration Total	**27 credits**
Major Total	**45 credits**

Requirements for the Concentration in Music

In addition to the three Foundation courses and three Interdisciplinary Core courses students will complete 18 credits of classes, lessons, and ensemble (or 17 credits if Class Piano is taken) including:

MU 101 Fundamentals of Music & Aural Skills	3 credits
MU 205 Harmony I	3 credits
MU 281 Music History I	3 credits
MU 282 Music History II	3 credits
MU 102-202-302-402 4Private lessons *(four semesters @ 1 credit each)*	4 credits
Ensemble	2 credits
(credits earned after completion of four semesters of ensemble participation)	
MU 190 Class piano (unless proficient)	1 credit
Additional MU courses*	8 or 9 credits

Or, if MU101 Fundamentals of Music & Aural Skills is taken as Interdisciplinary Foundation

MU 205 Harmony I	3 credits
MU 210 Harmony II	3 credits
MU 281 Music History I	3 credits
MU 282 Music History II	3 credits
MU 102-202-302-402 4Private lessons *(four semesters @ 1 credit each)*	4 credits
Ensemble	2 credits
(credits earned after completion of four semesters of ensemble participation)	
MU 190 Class Piano (unless proficient)	1 credit
Additional MU courses*	8 or 9 credits
Concentration Total	**27 credits**
Major Total	**45 credits**

Requirements for the Concentration in Theatre

In addition to the three Foundation courses and three Interdisciplinary Core courses students will complete nine courses (27 credits) including:

TH 275 Introduction to Stagecraft	3 credits
TH 245 Acting I	3 credits
TH 355 Theatre Practicum *(3 at one credit each)*	3 credits
and one of the following:	
TH 360 Scene Design for Theatre	3 credits
TH 370 Costume Design for Theatre	3 credits
TH 390 Lighting Design for Theatre	3 credits
Additional TH courses*	15 credits
Concentration Total	**27 credits**
Major Total	**45 credits**

**With advisement, electives within a concentration may be selected from the other disciplines. For description of required and elective courses see entries in individual disciplines of Art, Music, and Theatre.*

Visual and Performing Arts Courses

For information on the Liberal Arts and Sciences Curriculum (LASC), see page 36

VP 200 Critical Thinking in the Arts

LASC—Creative Arts; Thought, Language and Culture

The experience of art, music, and theatre to develop individual critical thinking in the similarities and differences among the arts.
Offered every year. 3 credits

VP 300 Interdisciplinary Arts Seminar

Prerequisite: VP 200

Examines examples of contemporary modes of interdisciplinary works of music, theatre, and visual art with the goal of developing an individual, creative aesthetic.
Offered every year. 3 credits

VP 375 Special Topics

A course that varies according to specific student and faculty interest.
Offered as needed. 3 credits

VP 400 Capstone/Senior Thesis

Prerequisites: VP 200, VP 300

Students research, design, and create works of art, music, and theatre for public presentation and evaluation by a faculty board of review.
Offer every year. 3 credits

VP 405 Independent Study in the Arts

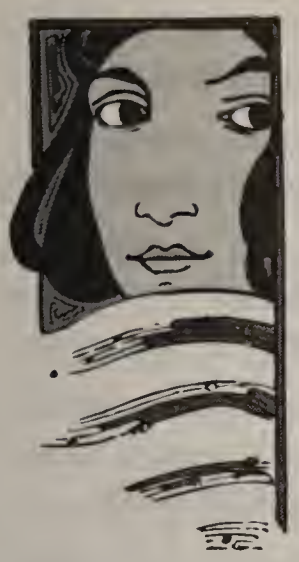
Prerequisite: Permission of instructor.

An opportunity for students to examine topics not ordinarily covered in other arts courses.
Offered every year. 1-3 credits

VP 435 Internship in the Arts

Prerequisites: 2 relevant arts courses

Advanced students gain practical experience in a working arts environment.
Offered every year. 3-12 credits.



Women's Studies
Women's Studies Concentration

Director

Suzanne Gainer, Associate Professor of Communication
B.A., St. Vincent College; M.F.A., Rhode Island School of Design

Advisory Board

Charlotte Haller, Assistant Professor of History
B.A., Brown University; M.A., Ph.D., University of Wisconsin

Margaret E. Kerr, Professor of Chemistry
B.S., University of Maine; Ph.D. Wesleyan University

Maura Collins Pavao, Associate Professor of Biology
B.S., Worcester Polytechnic Institute; M.S., Ph.D., Rutgers University

Fortunata S. Makene, Assistant Professor of Sociology
B.A., University of Dar Es Salaam, Tanzania; M.S., St. Cloud State University;
Ph.D. University of Minnesota, Twin Cities

Kristin Waters, Professor of Philosophy
A.B., Bard College; M.A., Ph.D., University of Connecticut

Teaching Faculty

Lisa Krissoff Boehm, Professor of Urban Studies
B.A., Northwestern University; M.A., University of Chicago; Ph.D., Indiana University

Alta Carroll, Associate Professor of Communication
B.A., Texas A&M University; M.S., Columbia University; Ph.D., Purdue University

Bruce S. Cohen, Associate Professor of History
A.B., M.A., Rutgers University

Steven Corey, Professor and Chair of Urban Studies
B.A., M.A., University of Rhode Island; Ph.D., New York University

Lori Dawson, Professor (on leave as Interim Associate Vice President for Assessment & Planning)
B.A., Suffolk University; M.A., Ph.D., University at Albany, State University of New York

Barry DeCoster, Assistant Professor of Philosophy
B.S., Worcester Polytechnic Institute; M.A., Ph.D., Michigan State University

Corey Dolgon, Professor of Sociology
B.A., Boston University; M.A., Baylor University; Ph.D., University of Michigan

Guillermina Elissondo, Professor of Spanish and World Languages
B.A., Universidad Católica de Mar del Plata, Argentina; M.A., Michigan State University; Ph.D., University of North Carolina – Greensboro

Carlos Fontes, Professor of Communication, Director of Global Studies
B.A., Escola Superior de Meios de Communicacao Social, Lisbon;
M.A., Ph.D., University of Massachusetts

Julie Frechette, Professor of Communication
B.A., University of New Hampshire; M.A., Ph.D., University of Massachusetts

Aldo V. Garcia Guevara, Assistant Professor of History
B.A., University of North Carolina-Asheville; M.A, Ph.D., University of Texas-Austin

Barbara Ann Giguere, Professor of Nursing
R.N., Worcester City Hospital School of Nursing; B.S., Worcester State College;
M.S., University of Connecticut; Ed.D., University of Massachusetts

Ruth P. Haber, Associate Professor of English
B.A., M.A., Ph.D., University of California, Santa Barbara

Tona J. Hangen, Assistant Professor of History
B.S., Massachusetts Institute of Technology; Ph.D., Brandeis University

Stephen Healy, Assistant Professor of Geography and Earth Sciences
B.A., Hampshire College; M.S., Ph.D., University of Massachusetts

Robyn Leo, Associate Professor of Nursing
R.N., Framingham Union Hospital; B.S.N., Worcester State College;
M.S.N., University of Connecticut

Penny Martin, Associate Professor of Criminal Justice
B.S., Weber State College, Utah; M.A., Humboldt State University;
Ph.D., University of Miami

Pearl Mosher-Ashley, Professor of Psychology
B.A., M.A., Mount Holyoke College; Ph.D. University of Massachusetts

Christie B. Nigro, Professor of Music and Interdisciplinary Visual and Performing Arts
B.M., Syracuse University; M.M., Yale University;
Ph.D. University of Massachusetts, Amherst

Steven J. Oliver, Associate Professor of Biology
B.A., University of Montana; Ph.D., Boston University

Maureen E. Power, Professor of Urban Studies
A.B., Emmanuel College; M.S.W., Ph.D., Brandeis University

Josna E. Rege, Associate Professor of English
B.A. Harvard University; M.A., Ph.D. University of Massachusetts, Amherst

MaryLynn D. Saul, Professor of English
B.S., M.A., Ph.D., Ohio State University

Helena B. Semerjian, Associate Professor and Chair of Health Sciences
B.S., M.Ed., Fitchburg State College; M.Ed., Boston University

Champika K. Soysa, Associate Professor of Psychology
B.A., Mount Holyoke College, M.A., Ph.D., Clark University

Maureen C. Stefanini, Professor of Business Administration
B.S., Ed.M., Worcester State College; M.S., Management, Massachusetts Institute of Technology; Ed.D., Boston University

Henry C. Theriault, Associate Professor and Chair of Philosophy
B.A., Princeton University; Ph.D., University of Massachusetts

Marc J. Wagoner, Assistant Professor of Psychology
B. A., Morehouse College, Atlanta, GA; Ph.D. University of Minnesota

Catherine Wilcox-Titus, Assistant Professor of Art and Interdisciplinary Visual and Performing Arts
B.A., University of Toronto; M.S., Simmonds College; M.A., Ph.D., Boston University

Karen Woods Weierman, Associate Professor of English
B.A., Georgetown University; Ph.D., University of Minnesota

Sharon R. Yang, Professor of English
B.A., University of Massachusetts, Lowell; M.A., Clark University;
Ph.D., University of Connecticut

Active Faculty

Rahim Al-Kaleem, Instructor of Sociology
B.S., M.S., New Hampshire College

Patricia A. Benjamin, Associate Professor and Chair of Geography and Earth Sciences
B.A., University of Oregon; M.L.S., University of Maryland; M.A., Ph.D., Clark University

Richard Bisk, Professor and Chair of Mathematics
B.A., Drew University; M.S., University of New Hampshire; A.S.A., Society of Actuaries;
Ph.D., Clark University

Lynn Bloomberg, Associate Professor of Health Sciences
B.A., University of Hawaii; M.Ed., University of Texas; M.P.H., Dr.P.H., University of California at Berkeley

Nancy Brewer, Associate Professor of Health Sciences
B.S., University of Pittsburgh; M.Ed., Ph.D., The Pennsylvania State University

Sibyl Brownlee, Vice President, Student Affairs
B.A., California State College, Los Angeles; M.A., California State University, Los Angeles; Ph.D., University of Massachusetts, Amherst

Carol Burns Donnelly, Professor of Education
A.B., Wellesley College; M.A., University of Miami; M.Ed., Harvard University;
Ed.D, Boston University

Anne M. Falke, Professor of Chemistry
B.A., University of Rhode Island; Ph.D., University of New Hampshire

James E. Foley, Associate Professor of English
B.A. Tufts University; M.A., Ph.D., Indiana University, Bloomington

Maria G. Fung, Associate Professor of Mathematics
B.A., M.S., Ph.D., Cornell University

Anne W. Gathuo, Associate Professor of Urban Studies
B.Ed., Kenyatta University; M.B.A., University of Nairobi;
Grad Certificate, M.S., Ph.D., University of Massachusetts, Boston

Judith Jeon-Chapman, Professor of French, Spanish and World Languages
B.A., College of St. Benedict; M.A., Ph.D. University of Washington, Seattle

Matthew Johnsen, Associate Professor and Chair of Sociology
A.B., Dartmouth College, Hanover, NH; M.S., New Hampshire College, Manchester;
Ph.D., North Carolina State University, Raleigh

Bonnie G. Kanner, Professor of Psychology
B.A., M.S., C.A.S., University at Albany, State University of New York;
Ph.D. Clark University

Bonnie Orcutt, Professor of Economics
B.S., Worcester State College; M.A., Ph.D., Clark University

Margarita Perez, Professor of Education
B.A., Mount Holyoke; M.A., Ed.D., Teachers College, Columbia University

Daniel C. Shartin, Professor of Philosophy
B.A., M.A., Ph.D., University of California at Los Angeles

Adam Zahler, Assistant Professor of Theatre and Interdisciplinary Visual and Performing Arts
B.A., University of Vermont; M.F.A., University of Virginia

Barbara Zang, Professor of Communication
B.S., University of Missouri; M.A., University of Toledo; M.A., University of Missouri;
Ph.D., Indiana University

Women's Studies is an interdisciplinary, academic course of study which lies at the intersection of the traditional academic disciplines such as literature, history, and philosophy in the humanities, psychology and sociology in the social sciences, as well as biology and geography in the natural sciences. Women's Studies has also found a prominent place in newer and interdisciplinary areas such as education, communications, urban studies and health sciences. Wherever gender issues are germane to a discipline, Women's Studies can be found, in part as a corrective to the centuries-long tendency of the traditional disciplines to focus mainly or exclusively on men and in part to bring new models of understanding to all areas of study.

The undergraduate concentration in Women's Studies brings together courses that focus on women and provide a critical analysis of gender and the related categories of class, race and other dimensions of social power. Gaining knowledge about women and men and understanding knowledge generated by Women's Studies helps students to move through our complex contemporary world.

Requirements for a Concentration in Women's Studies: 15 credits

The Women's Studies concentration is interdisciplinary; it uses a broad variety of academic disciplines in achieving its goals. Students are required to take a total of five Women's Studies courses from at least two disciplines. It is recommended that students take an introductory course such as WO/UR 103: Introduction to Women's Studies or WO/PH 150: Women in Western Ideas. Students are also encouraged to engage in some sort of specialized experience such as an independent study, a directed readings course leading to a major paper, a creative project or an internship. Students in Women's Studies may use courses to simultaneously count for a concentration in Women's Studies and other Worcester State requirements.

Women's Studies Courses

For information on the Liberal Arts and Sciences Curriculum (LASC), see page 36

Courses marked with an asterisk (*) are approved for the concentration only during those semesters when they are listed under Women's Studies in the Course Schedule.

WO/CM 213 Gender and Media

LASC—Human Behavior and Social Processes; Thought, Language and Culture

Prerequisite: CM 100

This course will examine how difference is socially constructed along gender lines, and will explore intersections of gender, identity and power.
Offered every 2 years. 3 credits.

*WO/CM 350 Intercultural Communication

Prerequisite: CM 100

Introductory communication theory and practice across cultural groups defined by race, ethnicity, gender, religion, age, nationality, geography, politics, and economics.
Offered every 2 years. 3 credits.

*WO/ED 330 Elementary Social Studies and Multiculturalism (only for Elementary Education Majors)

Prerequisite: must be admitted to stage 2 in the elementary education program.

Goals, curriculum, skills, teaching strategies in educating culturally diverse populations in a global context.
Offered every year. 3 credits.

WO/EN 132 World Literature: Survey of Asian, African and Latin American Literature

LASC—Global Perspectives; Thought, Language and Culture; Diversity Across the Curriculum

Representative poems, stories, plays, both ancient and modern, from Africa, Asia, Latin America.
Offered every year. 3 credits.

WO/EN 172 Women and Literature

Explores basic issues and problems in literature by and about women.
Offered every 2 years. 3 credits.

WO/EN 174 Women Poets

A close reading and analysis of poetry written by women from a historical as well as contemporary feminist perspective.
Offered every 3 years. 3 credits.

WO/EN 345 Women in American Literature

Prerequisite: EN 102

The American woman as she is found in fiction, non-fiction, and poetry.
Offered every 3 years. 3 credits.

*WO/FR 341 Introduction to French Literature

LASC—Thought, Language and Culture

Prerequisite: Two FR 200 level courses or equivalent

Major periods and genres of French literature: for majors and minors. Conducted in French.
Offered every 3 years. 3 credits.

WO/HC 234 Multiculturalism and Health

Examination of diverse ethnic/racial and cultural beliefs and practices affecting health and illness.
Offered every 2 years. 3 credits.

WO/HE 210 Women's Health Issues

Interactive processes of politics, power, and media influence on research and public health policies; current health issues are addressed.
Offered every year. 3 credits.

*WH/HI 191 ST: The History of Child Labor

A comparative history course that will analyze the socio-economic influence of industrialization, de-industrialization and globalization on children and young women, including the "Lowell Girls."

Offered every 3 years. 3 credits.

*WO/HI 209 Afro-American History

The role of blacks in American society from the seventeenth century to the present, emphasizing the institution of slavery.

Offered every 3 years. 3 credits.

*WO/HI 216 Economic History of the US

An introduction to United States economic development; particular attention will be paid to industrialization and the labor force

Offered every year. 3 credits.

*WO/HI 232 European Intellectual History II

Prerequisite: HI 103 or HI 104

The main theoretical frameworks, philosophic, psychological, and scientific, of the nineteenth and twentieth centuries.

Offered every 3 years. 3 credits.

*WO/HI 249 US Labor History I

The relationship between workers, their employers, and the surrounding community between 1815 and World War II.

Offered every 2 years. 3 credits.

WO/HI 270 Writings on Feminism in Historical Perspective

This course examines the writings of Euro-American male and female feminists who promoted the interests of women during the 16th - 19th centuries

Offered every 2 years. 3 credits.

WO/HI 274 Sex, Marriage and the Family in Historical Perspective

Prerequisite: HI 103 or HI 104 or HI 111 or HI 112

This course will undertake a study of courtship, marriage and family life-cycle patterns in England and America during the 19th century.

Offered every 2 years. 3 credits.

WO/HI 333 Women in Latin America

Prerequisite: HI 233 or equivalent

Examines the roles of women in diverse societies including Mexico, Brazil, and the Caribbean nations. Emphasis on the modern period.

Offered every other year. 3 credits.

WH/HI 350 Native American Women

Prerequisite: HI 205 or equivalent

Examines Indian Women from the time of European contact to the modern arena. Emphasizes culture, community and arenas of power.

Offered every other year. 3 credits.

*WO/HI 353 The Age of Reform: 1877-1920

Prerequisites: HI 111, HI 112

An analysis of the transformation of America, including the reform response to the Gilded Age's industrialization, urbanization, and immigraiton patterns.

Offered every 2 years. 3 credits.

WO/HI 372 The Evolution of Women's Rights

This course analyzes the evolution of Women's Rights with emphasis on its role in the twentieth century's International Law of Human Rights

Offered every 2 years. 3 credits.

*WO/HI 450 ST: New England History

A topical history course in which class, ethnic and gender changes will be considered in the pre-industrial, industrializing, industrial, de-industrializing and post-industrial periods in the six state region.

Offered every 3 years. 3 credits.

WO/MU 231 Women in Music

A survey of the role of women in music, particularly the great women composers from Medieval to Contemporary times.
Category 1. 3 credits.

*WO/NU 310 Nursing Science I

Prerequisites: NU 210; BI 262; SO 215 or SO 220
Corequisite: CH 240

Students will apply the nursing process when caring for the childbearing family and adult medical-surgical patients. Concepts of wellness, disease and health behaviors will be examined as the nursing process is operationalized in the care of adult medical-surgical patients and the childbearing family. Lecture and off-campus clinical experiences in maternal-child health nursing and medical-surgical nursing are included in this course.
Offered Fall semester every year. 8 credits.

WO/PH 150 Women in Western Ideas

Investigates the concept of woman from ancient Greece to the present.
Offered every 2 years. 3 credits.

*WO/PH 240 Political Theory

LASC—Thought, Language and Culture; United States and Its Role in the World

Investigates concepts including political power, equality, revolution, liberties, slavery, socialism and liberalism, patriarchal power, race and gender
Offered every 3 years. 3 credits.

*WO/PH 241 Genocide and Human Rights

LASC—Global Perspectives; United States and Its Role in the World

This course treats the ethical, political, and other dimensions of systematic mass violence through case studies and general theoretical analysis.

Offered every 3 years. 3 credits.

WO/PH 250 Global Feminism

LASC—Global Perspectives; Thought, Language and Culture

Investigates the theoretical underpinnings of women's movements for equal rights around the globe
Offered every 2 years. 3 credits.

*WO/PS 215 Psychology of Adolescence

Prerequisite: PS 101
The mental, emotional, social, and physical changes of contemporary adolescence are examined with emphasis on family, peer and school influences.
Offered every year, 3 credits

*WO/PS 220 Psychology of Aging

Prerequisite: PS 101

Adulthood and old age are studied with special emphasis on current developmental theories
Offered every year, 3 credits

WO/PS 255 Psychological Foundations of Diversity

Prerequisite: PS 101

Explores the gender, racial/ethnic, multiple-group membership, cultural, social class, religious, disability and sexual orientation facets of diversity.
Offered every 3 years. 3 credits.

WO/PS 260 Psychology of Human Sexuality

Prerequisite: PS 101

Sexuality as a foundation of personality. The wide range of human sexuality is explored: sexual development, roles, attitudes and behaviors
Offered every 2 years. 3 credits.

WO/PS 263 Psychology of Women

Prerequisite: PS 101

Women's psychological development throughout the lifespan will be examined, including female development, achievement, stereotyping, stress, violence and psychological disorders.
Offered every 2 years. 3 credits.

WO/PS 315 Physical and Sexual Abuse

Prerequisite: PS 101

Etiology, characteristics, consequences, treatment, and prevention of various forms of physical, sexual, and emotional abuse in children, adolescents, and adults.
Offered every 2 years. 3 credits.

*WO/PS 335 Abnormal Psychology

Prerequisite: PS 101

Etiology, dynamics, and treatment of psychopathology and their relation to normal personality are considered from traditional and contemporary perspectives.
Offered every 2 years. 3 credits.

WO/SO 130 Race, Ethnicity and Gender

An introduction to dominant-minority group relations through the investigation of the patterns and dynamics of differentiation, inequality and discrimination.
Offered every 3 years. 3 credits.

*WO/SO 205 Issues in American Society

Prerequisite: SO 100

Identification and analysis of current social issues facing contemporary American society, and critique of policies and programs designed to resolve these issues.
Offered every 2 years. 3 credits.

*WO/SO 240 Sociology of Education

Prerequisite: SO 100 or SO 110

Study of modern educational systems, emphasizing the social, political and economic factors that influence its organization and its functions.

Offered every 2 years. 3 credits.

*WO/SO 300 Social Change

Prerequisites: Two courses at 200-level

A study of the conditions, patterns, and consequences of social transformations with emphasis on institutional and individual patterns of adjustments and adaptation.
Offered every 3 years. 3 credits.

*WO/SO 350 Social Stratification

Prerequisites: Two courses at 200-level

Investigation of the recurrent patterns of social differentiation, social ranking, and the unequal distribution of rewards.
Offered every 2 years. 3 credits.

WO/UR 103 Introduction to Women's Studies

This course uses a variety of academic disciplines to study the situation of women around the world.
Offered every year. 3 credits.

WO/UR 202 Aging in Metropolitan Society

An introduction to gerontology, stressing the social, economic and political aspects of aging in the urban environment.
Offered every 2 years. 3 credits.

WO/UR 216 Women and Aging in the Urban Environment

Investigation of the aging process for women in urban society, focusing on their great longevity, lower income status, and major caregiving role.
Offered every 2 years. 3 credits.

WO/UR 290 Gender and the City

Exploration of ways in which gender, both male and female, structures responses of individuals to urban life and urban spaces.
Offered every 2 years. 3 credits.

*WO/UR 360 Environmental Systems and Public Policy

Prerequisite: UR 101 or permission of instructor

Examination of urban ecosystems, focusing on land uses designed to effectively utilize water, open space and other natural resources.
Offered every 2 years. 3 credits.

WO/UR 380 Public Policy and Cultural Diversity

Prerequisite: UR 101

This course will examine contemporary policy issues and problems deriving from cultural diversity. These will include areas such as immigration, population, demographics, affirmative action, public assistance, integration, separatism, political correctness, gender equity, and the role of organized religion in contemporary politics.

Offered every 2 years. 3 credits.

World Languages
Department of World Languages

Faculty

Guillermina Elissondo, Professor (1999)
B.A., Universidad Católica de Mar del Plata, Argentina; M.A., Michigan State University; Ph.D., University of North Carolina – Greensboro

Judith Jeon-Chapman, Professor (1993)
B.A., College of St. Benedict; M.A., Ph.D., University of Washington

Patricia A. Marshall, Associate Professor (2004), Department Chair
B.A., Colby College; M.A., Ph.D., Brown University

Ana Pérez-Manrique, Assistant Professor (2006)
B.A., Universidad de Málaga, Spain; M.A., University of South Carolina; Ph.D., Florida State University

Juan Orbe, Professor (1996)
Universidad Nacional de La Plata, Argentina; M.A., Ph.D., Michigan State University

Courses

For information on the Liberal Arts and Sciences Curriculum (LASC), see page 36

WL 101 Beginning World Language I

Beginning level I instruction in world languages that are not otherwise offered by the Department of World Languages.
3 credits

WL 102 Beginning World Language II

Beginning level II instruction in world languages that are not otherwise offered by the Department of World Languages.
3 credits

WL 210 Intermediate World Language I

Intermediate level I instruction in world languages that are not otherwise offered by the Department of World Languages.
3 credits

WL 211 Intermediate World Language II

Intermediate level II instruction in world languages that are not otherwise offered by the Department of World Languages.
3 credits

Professors Emeriti

Helen G. Agbay, Spanish 1974

Dr. Joshua U. Aisiku, Education 2009

Francisco Alcala, Spanish 1996

Dr. M. June Allard, Psychology 2005

Francis I. Amory, Urban Studies 2009

Dr. Eleanor Ashton, Psychology 2004

Charles D. Avedikian, Mathematics and Computer Science 1990

James R. Ayer, Languages and Literature 2000

Vera M. (Dowden) Baldwin, Education 1974

Nora M. Barraford, English 1984

Dr. Elizabeth T. Binstock, Education 2002

Edwin A. Boger, Biology 2000

Arnold J. Bornfriend, Business Administration and Economics 2000

Dr. Anne M. Brown, Nursing 2002

Josefina S. Bunuan, Education 1999

Michael A. Burke, Health Science 1998

William Byers, Communications 2002

Dr. Jean A. Campaniello, Psychology 2002

Doris M. Carter, Visual and Performing Arts 1998

Jacqueline G. Casale, Art 1991

Jennie M. Celona, French 1996

Louis J. Celona, Music 1992

Harold L. Chapman, Physics 1988

Carol Chauvin-Fortier, Biology 1993

Yvonne Chen, Health Sciences 2001

Kee Il Choi, Business Administration and Economics 1992

Anna B. Cohen, Communication Disorders 1999

Phyllis A. Crowley, English 1996

Dr. Joyce Cummings, Psychology 2002

Philip S. Dalton, History and Political Science 2000

Aldona Daly-Boxshus, Psychology 1995

Paul Davis, Media, Arts and Philosophy 1992

Vincent R. DeBenedictis, Foreign Languages 1990

Clement S. Delaney, History and Political Science 2008

Professors Emeriti

Barbara A. Desrosiers, Psychology 1998

Daniel E. Dick, Natural and Earth Sciences 1989

John R. Dowling, Education 1998

Helen B. Duquette, Physical Education 1992

Francis T. Dyson, Physical Education 1993

Alfred F. Eddy, English 1990

Robert P. Ellis, English 1995

Dr. Leonard F. Farrey, Business Administration and Economics 2002

Dr. Arthur Ferguson, Chemistry 2006

Dr. Vivian C. Fox, History and Political Science 2004

Florence Fraumeni, Education 1985

Linda Fuller, Communications 2000

Yvonne Gallant-Martel, French 1977

Dr. Geoffrey J. Garrett, Physical and Earth Science 2004

Dr. C. Kenneth Gibbs, English 2010

James E. Girouard, Physical Education 1985

Bernard Goldsmith, History and Political Science 1995

Merrill H. Goldwyn, Languages and Literature 1998

Dr. Linda S. Gordon, Languages and Literature 2003

Loren N. Gould, Natural and Earth Sciences 1993

Dr. Terry E. Graham, Biology 2003

Emmet J. Grandone, Languages and Literature 1998

Ruth E. Greenslit, Library 1989

Sandra A. Hall, Nursing 2002

Nancy E. Harris, Education 1999

Dr. Robert J. Hartwig, Business Administration and Economics 2004

Mary T. Hayes, Education 1974

Bruce Henry, Mathematics and Computer Science 2001

Mary Ellen Herx, English 1989

Dr. Nancy Hicks, Physical and Earth Science 2005

Dr. W. Mack Hill, Mathematics 2004

David W. Hilton, Computer Science 1999

Paul A. Holle, Biology 1989

Richard G. Hunt , Physical and Earth Science 2007

Ronald W. Hurd, Physical and Earth Science 2004

Marion J. Jennings, Education 1978

Alfred C. Johnson, Mathematics 2004

Jean E. Johnson, English 1990

Nancy A. Johnson, Education 1995

Dr. Joline N. Jones-Matheson, Psychology 2006

Dr. Donna M. Joss, Occupational Therapy 2004

Donald L. Joyal, Business Administration and Economics 2008

Dr. Joan K. Juralewicz, Education 2002

Richard S. Juralewicz, Business Administration and Economics 2001

Robert G. Kane, History 1999

George T. Kelley, Economics 1997

Robert F. Kelley, Physics 1988

Baheej B. Khleif, Sociology 1994

Margaret A. Kittredge, Spanish 1995

Sandra Kocher, Art 1992

Dr. Ellen V. Kosmer, Visual and Performing Arts 2004

Jerome L. Langer, Business Administration 1982

Edward H. Leonard, Physics 1984

Robert E. Lingner, Physical and Earth Sciences 2005

Mary Lou Lovering, Nursing 2000

Carol E. Lysaght, Communication Disorders 1996

Dr. Gordon S. Matheson, Psychology 2004

Gary W. McEachern, Business Administration and Economics 1998

Bernard L. McGough, Media 1994

Robert F. McGraw, History 1991

John F. McLaughlin, Communication Disorders 1996

Dr. Mary Ellen Meegan, Education 2009

Dr. Melvin Merken, Chemistry 2010

Michel D. Merle, Visual and Performing Arts 2005

A. Gibbs Mitchell, History 1996

John P. Mockler, Physical Education 1992

Michael E. Mulcahy, Mathematics 2005

John M. Nash, Psychology 1993

Francis J. O'Connor, Spanish 1980

Richard A. O'Connor, Psychology 1994

Dr. Virginia Ogozalek, Computer Science 2003

Paul F. O'Neil, Education 1997

Dr. Chad C. Osborne, Education 2002

Dr. Ruth Ostenson, Psychology 2002

Robert F. Perry, Geography 1987

Dr. Robert J. Perry, Mathematics 2008

Professors Emeriti

Vincent Piccolo, Media 1988

Frank C. Pizziferri, Sociology 1995

Vincent E. Powers, Urban Studies 2000

Catherine I. Quint, Education 1985

Dr. David Quist, Education 2003

Donald A. Read, Health Sciences 2001

Dr. Robert Redding, Mathematics 2004

Dr. Susan V. Rezen, Communication Sciences and Disorders 2008

Gerald Robbins, Philosophy 2007

Jeffrey L. Roberts, Languages and Literature 2001

Thomas L. Roberts, Biology 1988

Evelyn Robinson, Mathematics 1978

Dr. Helen M. Rogers, Nursing 2006

Bruce D. Russell, Biology 2003

Dion Schaff, Philosophy 1993

Robert L. Shafner, Business Administration and Economics 2010

Helen G. Shaughnessy, Education 1986

Dr. Ann Marie Shea, Visual and Performing Arts 2005

Katherine M. Shea, Foreign Languages 1991

Dr. Robert M. Spector, History and Political Science 2008

William L. Sullivan, English 1983

G. Flint Taylor, Psychology 1985

Robert W. Thompson, Physical and Earth Sciences 2005

Anthony W. Thurston, Biology 1983

Donald F. Traub, Philosophy 1998

F. Stephen Trimby, Business Administration and Economics 2004

Richard S. Tyrell, English 1994

LLoyd P. Wheaton, Chemistry, 2002

Dr. James R. Wicka, Communication Sciences and Disorders 2006

Dr. Gary G. Young, Business Administration and Economics 2002

Cheng Yuan, History and Political Science 2000

Manuel Zax, Mathematics 1992

Faith T. Zeadey, Sociology 2003

Matthew Zelman, Sociology 2004

Estelle C. Zoll-Resnik, Chemistry 1997

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Robert E. Leestamper

1970-1975

Joseph J. Orze

1975-1982

Philip D. Vairo

1982-1991

Kalyan K. Ghosh

1992-2002

Janelle C. Ashley
2002-

Administrative Offices

Office of the President

Dr. Janelle C. Ashley, President of the College (2002)
B.B.A., M.A., Stephen F. Austin State University; Ph.D., University of North Texas

Deborah C. Quinn, Staff Associate, President's Office (1997)

Judith A. St. Amand, Executive Assistant to the President (1970)
B.S., Worcester State College

Academic Affairs

Elizabeth Axelson, Director, Admissions (1970)
B.S., M.S., Worcester State College

Kristin S. Balutis, Assistant Director, Academic Success Center (2007)
B.A., Emmauel College; M.Ed., Suffolk University

Betsey J. Brenneman, Senior Librarian (1977)
B.S., Kent State University; M.L.S., Syracuse University; M.A.T., Fitchburg State College

Joan Butterworth, Staff Assistant/Clinical Supervisor, Communication Sciences and Disorders (2008)
B.S., Northeastern University; M.S., Purdue University

Julie A. Chaffee, Director, Student Records and Registrar (1994)
B.A., St. Anselm College

Steve Chao, Director, International Programs (2004)
B.A., Columbia College; M.B.A., Lindenwood University; Ed.D., St. Louis University

Lee A. Cordaro, Staff Assistant/Clinic Supervisor, Communication Sciences and Disorders (2005)
B.S., M.S., Worcester State College

Charles Cullum, Provost/Vice President for Academic Affairs (2010)
B.A., Penn State University, University Park, PA; M.A., Ph.D., Temple University

Krishna DasGupta, Senior Librarian (1969)
B.A., Asutosh College; M.A., Calcutta University; M.L.S., Simmons College

Lori Dawson, Interim Associate Vice President for Assessment and Planning (1995)
B.A., Suffolk University; M.A., Ph.D., University at Albany, State University of New York

Kirshner Donis, Assistant Director, Admissions (2003)
B.A., Clark University

Christopher J. Dooley, Assistant Director, Admissions (2005)
B.S., Becker Collge

Jennifer English, Associate Director, Financial Aid (1999)
B.A., Mount Holyoke College

Debra W. Gaston, Staff Associate/Counselor, Academic and Personal Counseling (1999)
B.A., St. Olaf College; M.A., Ph.D., University of Connecticut

Catherine Goodwin, Staff Assistant/ESL instructor, Graduate and Continuing Education (2009)
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Roberta L. Kyle, Associate Dean, Graduate and Continuing Education (2008)
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Frances Langille, Staff Assistant/Coordinator, Intergenerational Urban Institute (2001)
B.S., Bridgewater State College

Alison Majeau, Assistant Librarian (2007)
B.A., Southern Connecticut State University; M.S., Simmons College

Mary Jo Marion, Executive Director, Latin Education Institute (2008)
B.A., Suffolk University; M.A., University of Chicago

Benjamin T. McElroy, Assistant Director, Admissions (2000)
B.A., Worcester State College

Jayne A. McGinn, Director, Financial Aid (1998)
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Pamela R. McKay, Senior Librarian (1978)
B.A., Dickinson College; M.S.L.S., Case Western Reserve University; M.A., University of Massachusetts

Thomas O'Malley, Staff Associate/Program Liaison, Worcester Craft Center (2009)
B.F.A., Alfred University; M.F.A., Rhode Island School of Design

Kimberly Oikle, Staff Assistant, Financial Aid (2008)
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Eileen Perez, Staff Assistant/Math Lab Coordinator, Mathematics (2009)
B.S., M.S., Union College

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Administrative Offices

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Maureen Shamgochian, Associate Vice President for Academic Affairs (1993)
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B.A., Worcester State College

William H. White, Associate Vice President, Continuing Education and Outreach and Dean of Graduate Studies, Graduate and Continuing Education (1998)
B.A., Nason College; M.Ed., University of New Hampshire; Ed.D., Vanderbilt University

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Administration and Finance

Gary Beauregard, Staff Assistant, Facilities (1992)

Tammy Bourakis-Nigosian, Director of Fiscal Affairs, Worcester Center for Crafts (2009)
B.A., Assumption College; M.B.A., Bentley College

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B.S., M.S., Worcester State College

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Associates Degree, Becker Junior College

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B.A., Eisenhower College

Carole Cronin, Staff Assistant/One Card Administrator, Administration and Finance (1985)

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B.S., Suffolk University; M.B.A., Nichols College

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Peter Fenuccio, Associate Director, Facilities (2004)
Worcester Technical Institute

Edward Horniak, Staff Assistant/Supervisor of Trades, Facilities (2010)

Alan E. Jackson, Associate Director, Facilities (1983)
A.B., Southeastern Massachusetts University; M.Ed., Worcester State College

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Debra Kuczka, Staff Assistant, Administration and Finance (2009)
B.S., Worcester State College

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A.S., Quinsigamond Community College

Nicole J. LeBlanc, Staff Assistant/Assistant to the Director of Procurement, Administration and Finance (2005)

Sandra Olson, Director, Facilities (2003)
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Mary Renee Polakowski, Staff Assistant/ARRA Stimulus Compliance Coordinator, Administration and Finance (2010)
B.S., Assumption College

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B.S., Worcester State College

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B.S., Worcester State College

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B.S., Worcester State College; M.B.A., Anna Maria College; S.P.H.R.

Diversity and Affirmative Action

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Daniel Devine, Staff Assistant/Lieutenant, College Police (2007)
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Melissa Fleming, Director, Student Affairs/Conference and Event Services (2005)
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INDEX

A

Academic Advising 46
Academic Calendar 97, 98
Academic Honesty 27
Academic Achievement Awards Ceremony 48
Academic Policies and Procedures, Undergraduate 27
Academic Probation 53
Academic Reprieve Policy 54
Academic Scholarships 83-96
Academic Standing 53
Academic Success Center 46
Academic Support Services *(Academic Success Center, Peer Advisors, Tutoring Services, Math Lab Services, The Writing Center)* 46-47
Accreditation 8
Add/drop (courses) 49
Administration Building, Helen G. Shaughnessy 11
Administrative Offices 324
Administrative Withdrawal 54
Admission, Undergraduate 16
- Application Process: First-year Student 16, 20
- Application Process: Transfers 17, 20
- Eligibility Index 16
- International Applicants 18, 51
- Joint Admissions 23
- Non-Degree Programs 24
- Non-Traditional Applicants 18

Advanced Placement 16, 58
Advising 46
Affordability and Accessibility 72
Alternatives for Individual Development 63
Alumni Advisory Board 332
Alumni Affairs (see Community Relations) 13
American Antiquarian Society Seminar 57
American Chemical Society 57
Appeal of Dismissal 53
Appeal Procedure 55
Application Process 20
Arabic 100
Art 101
Athletics and Recreation 64
Attendance 52
Audit Procedure Policy 50

B

Baccalaureate Degree Requirements 35
Bioinformatics 108, 116, 128, 147
Biology 105
Biotechnology 115
Bookstore 64
Business Administration 118

C

Calendar, Academic 97, 98
Campus Facilities 11
Campus, Directions to and Campus Map ..... 340, inside back cover
Campus Ministry 64
Career Services 65
Chandler Village (residence facility) 12
Change of Catalog Information 13
Change of Grade 51
Change of Major/Minor 45
Cheating (Academic Honesty) 27
Chemistry 126
College Academic Program Sharing (CAPS) 58
College Level Examination Program (CLEP) 58
Colleges of Worcester Consortium 57
Commonwealth Transfer Compact 23
Commonwealth Honors Scholars 47
Communication 134
Communication Sciences and Disorders 141
Community Health 212, 216
Community Relations 13
Computer Facilities 11
Computer Science 146
Consortium: Course Cross-registration 57
Consortium, Colleges of Worcester 57
Corequisites 49
Counseling 65
Course Information 48
Course Credit 49
Course Numbering System 48, 99
Course Overload 49
Course Repeat 49
Course Scheduling 48, 99
Credit by Examination 58
Criminal Justice 152

D

Dean's List 48
Declaration of Major/Minor 45
Degree Programs, Undergraduate 14-15
Degree Requirements, Baccalaureate, Second Baccalaureate 35
Department Challenge 58
Department Information 99
Department of Higher Education 321
Dining Services 67
Disability Services Office 65
Discipline Information 69-70
Dismissal, Academic 53
Distribution Requirements, *Track II* 43
Dowden Hall (residence facility) 12
Dropping or Adding Courses 49

E

Earth Sciences, Geography and 195
Economics 159
Education 163
Electives 45
Emeriti, Professors 317
Employment Opportunities for Students 82
English 181
English-Second Language (ESL) Students 19
English-Second Language, Workplace ESL 60
Enhanced Learning Opportunities 56
Evening Undergraduate Program 25, 74
Examination Schedules 97, 98

F

Faculty (see individual academic programs)
Family Educational Rights and Privacy Act 9
Federal Work Study Programs (FWSP) 82
Fees
- Residence Hall 73
- Summer Programs 74
- Undergraduate, State-supported (day) Program 71
- Undergraduate, Evening Program 74

Financial Aid 77
Financial Information 71
Food Service Plan 67, 74
Foreign Languages: Arabic, French, Spanish, World Languages 100, 192, 288, 316
Foundation Requirements, *Track II* 43
French 192
First-year Student Admission 16
First-year Experience Requirement 44

G

General Education Requirements: *Track I, Track II* 36, 43
Geography and Earth Science 195
Gerontology, Concentration in 297
Global Studies 203
Grade Appeal Procedure 55
Grade Point Average 50
Grading System 49
Graduate Information *(see the Graduate School Catalogue which may be obtained in the Graduate Office)*
Graduation Honors 48
Graduation Requirements 35
Grants, Scholarships, Waivers 78-80, 83-96
Gymnasium 11

H

Health Education Major 212
Health Forms 66
Health Insurance 67, 75
Health Services Office 66
Health Sciences 211
Helen G. Shaughnessy Administration Building 11

Higher Education, Department of 321
History 218
Honesty (Academic) 27
Honors Program 47

I

Immunization Requirements 23, 66
Incomplete Coursework/Grade 50
Independent Study 50
Information Technology 228
Institutional Advancement, Office of 13
Intensive English Language Institute 52
Intent to Graduate 45
Interdisciplinary Visual & Performing Arts 303
International Applicants/Programs 18, 51
Internships 58

K

Kalyan K. Ghosh Center for Science and Technology 11

L

Laptop and Technology Requirement 44
LASC (Liberal Arts and Sciences Curriculum) 36
Learning Resource Center 11
Leave of Absence 23, 54
Liberal Arts and Sciences Curriculum (LASC) 36
Library (Learning Resource Center) 11
Loans 81

M

Majors and Minors: Undergraduate Programs 14-15, 45
Map of Campus and Directions ..... 340, inside back cover
Massachusetts College of Pharmacy and Health Science, Accelerated Pharmacy Program with
..... (see Biology, Biotechnology, Chemistry, Enhanced Learning Opportunities, Natural Science sections)
MassTransfer 21-22
Mathematics 229
Math Lab Services 47
Matriculation 34
MCPHS - Massachusetts College of Pharmacy and Health Science
..... (see Biology, Biotechnology, Chemistry, Enhanced Learning Opportunities, Natural Science sections)
Middle East Studies 219
Minors 14-15, 45
Mission 7
Multicultural Affairs 63
Music 235

N

National League for Nursing (NLN) Examinations 59
Natural Science 240
New England Regional Student Program 59
Non-degree Programs 24
Nondiscrimination Policy 8
Nuclear Medicine Technology, Concentration in 107
Nursing 244

O

Occupational Therapy 253
Off-campus Courses 59
Officials of Worcester State 321
Organizations, Student 68
Outdoor Facilities 12
Overload (Course) 49

P

Pass/Fail Option 50
Peer Advisors 46
Pharmacy Program with Massachusetts College of Pharmacy and Health Science, Accelerated
..... (see Biology, Biotechnology, Chemistry, Enhanced Learning Opportunities, Natural Science sections)
Philosophy 259
Physical Education 264
Physics 267
Placement Services (see Career Services) 65
Plagiarism (Academic Honesty) 28
Police, Worcester State 65
Political Science 270
Post-baccalaureate Students 25, 35
Pre-Law Program 59
Pre-Medical, Pre-Dental, Pre-Veterinary, Pre-Pharmacy Advisory Program 25, 59
Prerequisites, Course 48
Presidents of Worcester State 323
Probation, Academic 53
Professors Emeriti 317
Prologue 7
Psychology 274
Public Relations (see Community Relations) 13

R

Refund Policy 75
Registration Information 48
Reinstatement 24, 54
Reinstatement Policy (Financial) 71
Religious Services (Campus Ministry) 64
Reprieve Policy, Academic 54
Residence Fees 73, 74
Residence Life and Housing (Residence Halls) 12, 67
Residence requirement for graduation, Undergraduate 35
Right-to-Know Act 26
Room and Board 73, 74
ROTC (Reserve Officer Training Corps) 60

S

Scholarships, Grants, Waivers 78-80, 83-96
Science and Technology Building, Kalyan K. Ghosh 11
Second Baccalaureate 25, 35
Services for Students 63
Sociology 283
Spanish 288
Special Students 24

Student Activities and Organizations 68
Student Center 12
Student Right-to-Know Act 26
Study Abroad 51
Sullivan Academic Center 12
Summer Programs 59

T

Theatre 293
Title IV Funds, Return of 76
Track I: General Education Requirements 36
Track II: General Education Requirements 43
Transcripts 51
Transfer Students, Undergraduate 17
Trustees of Worcester State 322
Tuition
    Tuition Surcharge 72
    Undergraduate State-supported (day) program 73
Tuition Waivers 79
Tutoring Services 47

U

Undergraduate Studies 14, 99
Upward Bound 63
Urban Studies 296

V

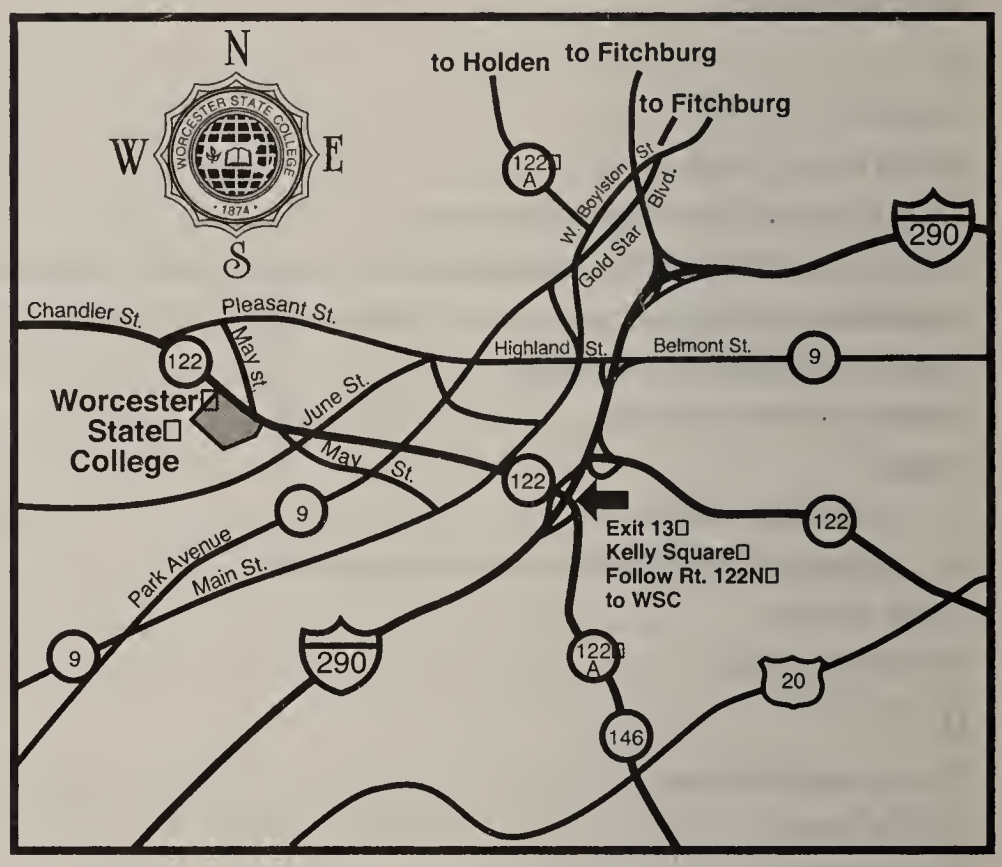
Veterans Information 68
Visual and Performing Arts, Interdisciplinary 303

W

Waivers, Grants, Scholarships 78-80, 83-96
Warning Status 53
Washington Center for Internships and Academic Seminars 60
Wasylean Hall (residence facility) 12
Web Development 148
Website 340
Withdrawal from Courses 49
Withdrawal from Worcester State 23, 54
Women's Studies 307
World Languages 316
Worcester Area Cooperating Libraries (WACL) 11
Worcester Consortium for Higher Education 57
Worcester State Academic Scholarships 83-96
Worcester State Board of Trustees 322
Worcester State Course Requirement 36, 43
Worcester State Honors Program 47
Worcester State Foundation (Board of Directors) 333
Worcester State Police 65
Workplace ESL 60
Writing Center 47, 183

Directions to the Campus

Worcester State is located in Worcester, Massachusetts, New England's third largest city, a thriving community of 162,000 residents. Worcester is located 40 miles west of Boston. The campus is easily accessible by auto, bus, or train from anywhere in New England.



By Auto

From Massachusetts Turnpike (I-90): Take Exit 10 *(Auburn)* to Rt. 290 East. *(see from 290 East)*

From Rt. 495: Take Exit 25 to Rt. 290 West. *(see from 290 West)*

From Rt. 9 West: Follow Rt. 9 West into Worcester. *(see from Highland Street)*

From Rt. 146 North: Take Rt. 146 North to Rt. 290 East. *(see from 290 East)*

From Rt. 190 South: Take Rt. 290 West. *(see from 290 West)*

From Rt. 290 West: Take Exit 18 *(Rt. 9 West)*; turn right off exit ramp and stay in center lane, following directions for Rt. 9 West. Turn right onto Rt. 9 West, also known as Highland Street. *(see from Highland Street)*

From Rt. 290 East: Take Exit 17 *(Rt. 9 West)*; turn left onto Rt. 9 West which will turn into Highland Street at the bottom of the hill. Proceed up the hill onto Highland Street. *(see from Highland Street)*

From Highland Street: While on Highland Street, stay in the right lane. Stay on Highland Street for 1.5 miles. *(You'll pass Elm Park and Doherty High School on the left.)* At the rotary, bear left onto June Street. At the second light, turn right onto May Street. The main entrance to the College will be three blocks ahead on your left.

The College mailing address is:
Worcester State
486 Chandler Street
Worcester, MA 01602-2597

Telephone: 508-929-8000

Normal office hours are
9 a.m. to 5 p.m. Monday through Friday

Visit our website:
www.worcester.edu
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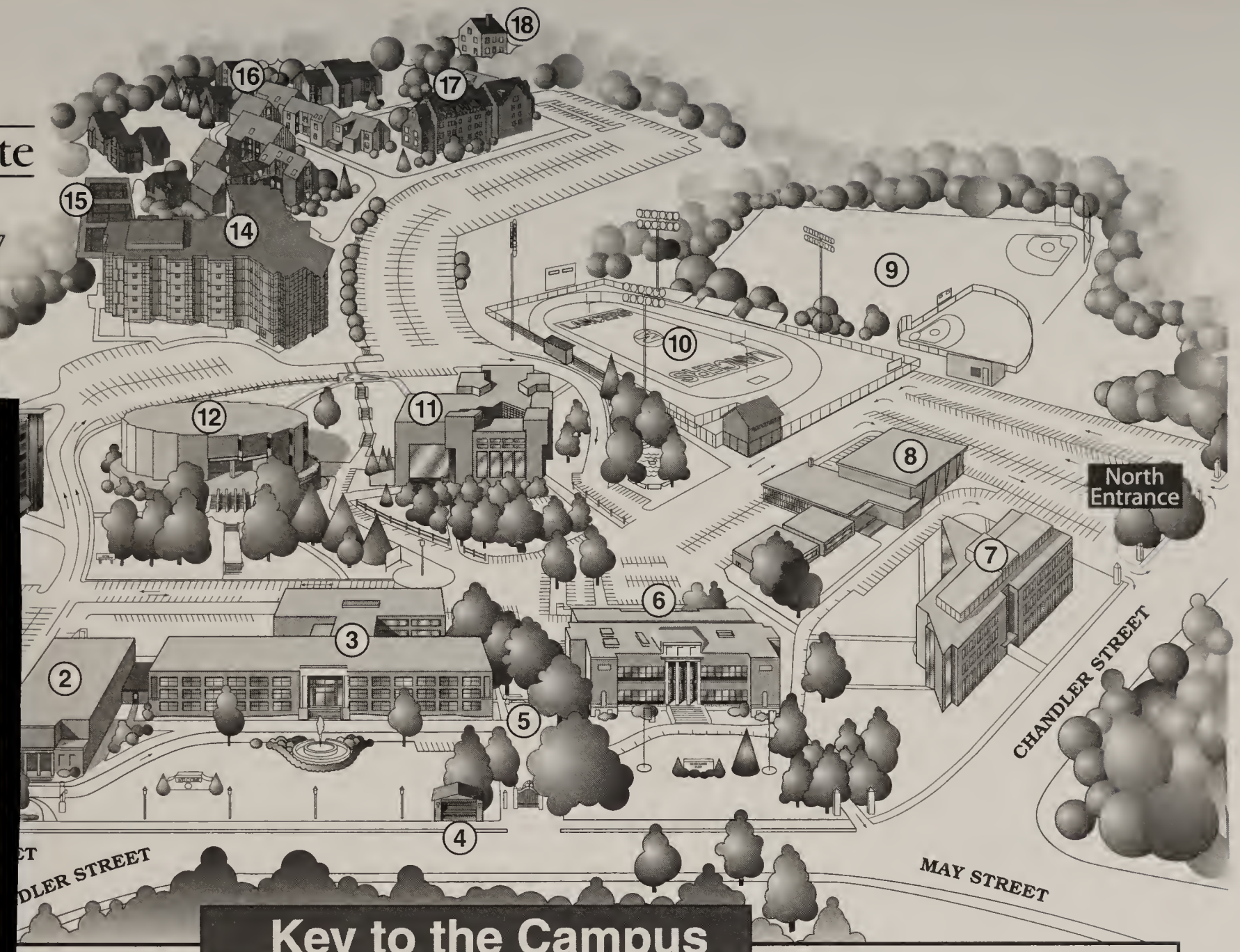

Key to the Campus

Coughlin Athletic Field (10)
Dowden Hall (17)
Gate House (1)
Ghosh Sci/Tech Center (7)
Gymnasium (8)
Learning Resource Center-Library (12)
Parking Garage (13)
Rockwood Field (9)
Shaughnessy Administration Bldg. (6)
Student Center (11)
Sullivan Academic Center (3)
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Wasylean Hall (14)

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